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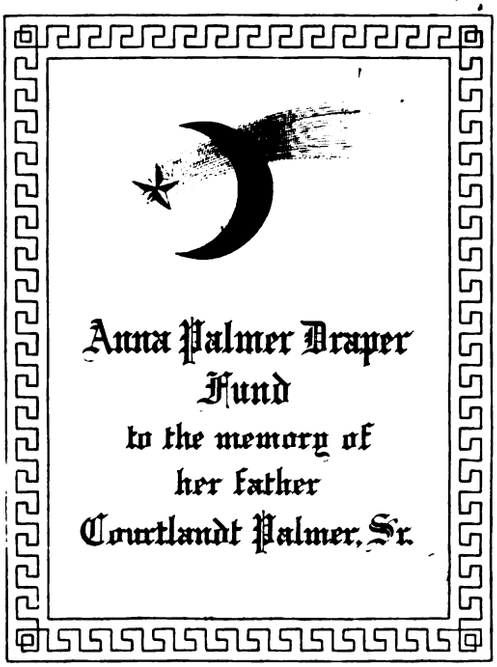
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The art workmanship of the Maori race in New Zealand

Augustus Hamilton, Royal Society of New Zealand, New Zealand institute, Wellington, N. Z., New Zealand Institute

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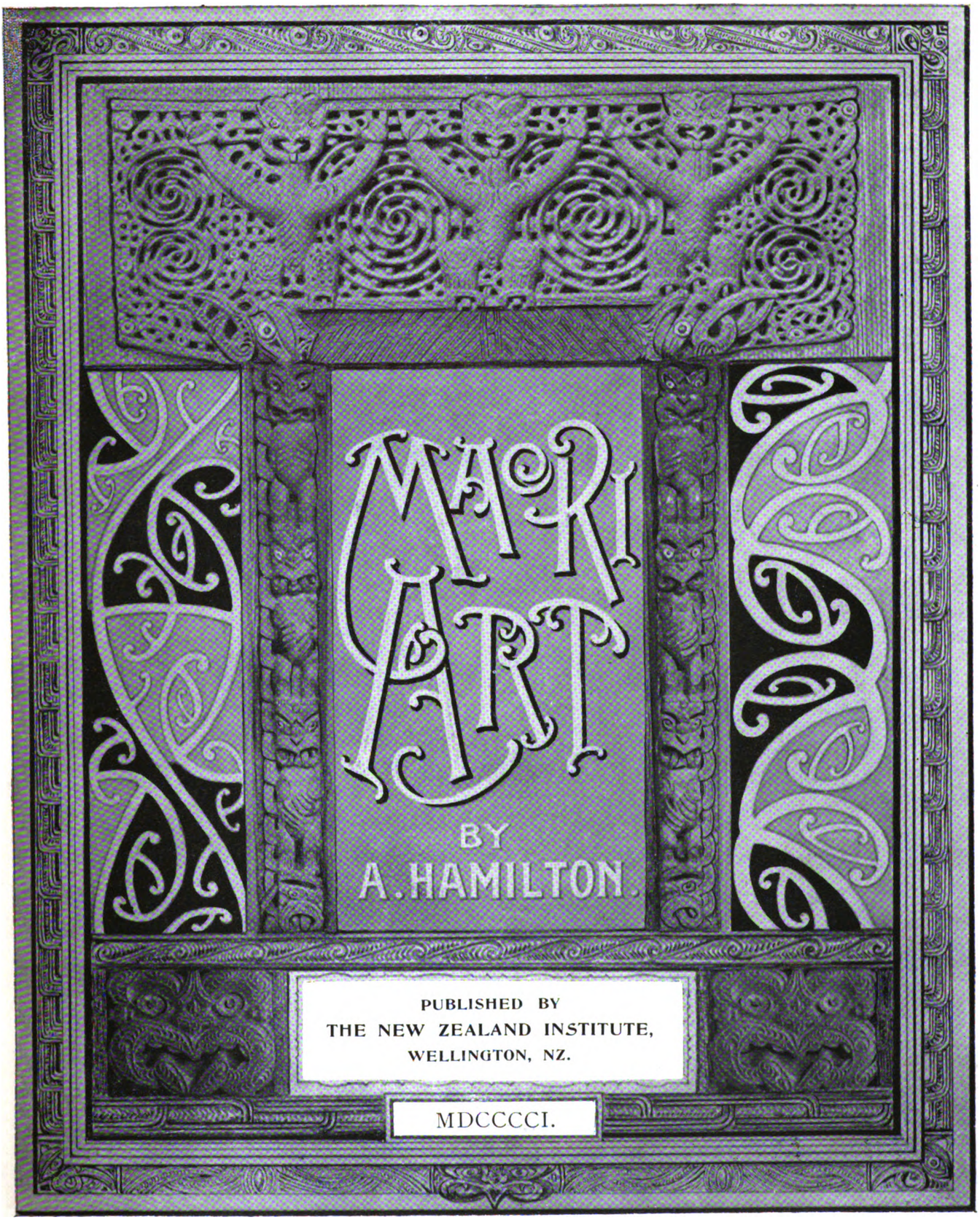
WIREMU TE MANAWA.

A Ngati-Raukawa Chief.

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New Zealand Institute.

THE ART WORKMANSHIP

OF THE

MAORI RACE IN NEW ZEALAND:

A SERIES OF ILLUSTRATIONS FROM SPECIALLY TAKEN PHOTOGRAPHS,

WITH DESCRIPTIVE NOTES AND ESSAYS ON THE

CANOES, HABITATIONS, WEAPONS, ORNAMENTS, AND DRESS OF THE MAORIS,

TOGETHER WITH

LISTS OF THE WORDS IN THE MAORI LANGUAGE USED IN RELATION TO THE SUBJECTS.

BY

AUGUSTUS HAMILTON,

REGISTRAR OF THE UNIVERSITY OF OTAGO,

DUNEDIN.

1896.

PRINTED AND PUBLISHED FOR THE BOARD OF GOVERNORS

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ILLUSTRATIONS OF MAORI ART.

PART I.

INTRODUCTION.

ON THE CANOES OF THE MAORIS.

PLAN OF THE DETAILS AND CONSTRUCTION OF A MAORI CANOE.

LIST OF CANOE WORDS.

ON THE HISTORICAL CANOES OF THE MAORI MIGRATIONS TO NEW ZEALAND, WITH THE NAMES OF CANOES MENTIONED IN MAORI TRADITIONS AND MYTHS.

LIST OF PLATES AND DESCRIPTIONS.

By A. HAMILTON,

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PUBLISHED BY THE GOVERNORS OF THE NEW ZEALAND INSTITUTE,
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INTRODUCTION.

IT has long been recognised that Art, as applied to decoration and elaboration of details, reached a very high level among the Maoris; but the exact position of this work has never been seriously considered, nor its relations to other schools of decorative design. This, no doubt, has been due to the fact that there has never been any collection of reproductions of specimens of their work published, in any accessible form, by which the general character and peculiarities of Maori Art might be studied. The only work which systematically undertakes the matter is the large and costly folio by G. F. Angas.* The volume of lithographed plates to Mr. John White's "History of the Maori," published by the New Zealand Government in 1891, contains reproductions of many of these drawings and others from various sources. Some of the plates in Angas' work are most interesting sketches, carefully made, of objects which have entirely disappeared at this time; but the re-production by hand of the details of an elaborate carving, or the exact shape of a weapon or tool, cannot possibly equal the accuracy of a properly taken and well-reproduced photograph.

It is, therefore, proposed by the Governors of the New Zealand Institute to publish in quarto form a series of photographs of the remaining monuments of Maori skill and art, with short descriptions of the specimens figured. The desirability of some record of this kind is now so universally recognised that it will probably be quite unnecessary to explain the necessity for such a publication. The only remarks that seem called for are those of regret that a definite scheme of record of a national character has not been in operation for years. Year after year the "devouring tooth of time" has obliterated carvings and works of skill that can never be replaced—not only on account of lack of practised skill in the present representatives of the race, but on account of difference of environment caused by the tide of colonization.

* G. F. Angas "The New Zealanders," 1847.

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Maori Art has several characteristics which are clearly brought out after the comparison and examination in detail of numerous specimens, the most strongly marked of these being the due application of ornament. It will be shown by abundant evidence that the ancient Maori had a deep and true sense of the fitness of things, and never ornamented his weapons or implements in such a way as to interfere with their primary purpose and free use.

Another point of interest is the conservation of a strictly conventional character or type in the ornamentation of each article; each tribe having its own rendering of the type, varied in degree of excellence by the skill of the maker. In some of the more important carvings—such as those in a house—departure from the lines laid down by their ancestors was considered an *aitua* or evil omen to the carver, which often resulted in death. Even in modern times, deaths of noted men have taken place from this cause.

With us an article or ornament is usually completed before it is brought into use; but the Maori used his weapon or his carved ornament as soon as it was fit to serve its purpose, and further elaboration would be spread over years—perhaps generations—with the result that in the case of the elaborately carved canoe ornaments, very few can be considered to have exhausted the artistic powers of the race: the real explanation of this being that the Maori loved his work and took a personal and national pride in it. The desired result was not easily arrived at; and, therefore, was highly prized when attained. From a general point of view, the whole of the art work of the Maori comes under the head of ornament. There are no representations in the solid of plant forms, or of animals (with a few exceptions that prove the general rule). No representations of hunting, fishing, and fowling; no sketches, like those of the cave-men, on fragments of bone—not even a sketch of a moa. Lizards certainly did appear in the carvings of the Northern tribes, but probably as an esoteric symbol, and not as representing any particular species.

The *Manaia*, or lizard, or snake, is a remarkable deviation from the general law stated here. There are several varieties: probably the snake form with the eagle's head is one of the most interesting, carrying us back to some of the older mythologies. Specimens of the figures are rare. It occurs sometimes as an ear-

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ornament carved in bone; and it is also represented on two large carvings in the Napier Museum which came from the Poverty Bay district. It is reported that a specimen in *pounamu* exists in the possession of natives near Taupo.

In the limestone caves and rock-shelters on the Waitaki River, on the Tengawai River, and at the Weka Pass, there are numerous rude paintings in red and black—of fishes, lizards, and various symbols and figures. But their appearance is quite different to any of the purely ornamental work of the Maori.

In the round the best efforts of the carver were devoid of any claim to correctness of proportion or grace, and probably were never intended to possess it. The most archaic art of the Old World is superior in the perception of the true proportion of the human figure. The highest conception of the human form crystallized itself and found expression in the best period of Greek Art, and represented not only the actual beauty of the race, but occasionally produced a masterpiece of an ideal perfection. The Maoris, with equal facilities for observation of the human figure, and with a racial type of a high order, never seemed to have acquired such a mental ideal, and were content with more or less conventional renderings of the human form; and the decorative patterns, infinite in their varieties, seem here, and in Polynesia generally, to be based on anthropomorphic lines.

Maori traditions ascribe to Rauru, son of Toi, who lived in the Bay of Plenty about 26 generations ago, the invention of the present pattern or style of Maori carving. No other branch of the Polynesian race uses exactly the same designs, so that tradition is supported in claiming an endemic origin for the art of New Zealand.

One very remarkable conventionality is presented in the Maori representation of the female figure; and the study of this will, no doubt, furnish us with some curious information. The Maori seldom omitted to indicate in the most definite manner the sex of the person represented; and it is, therefore, somewhat strange that female figures seldom occur in any old Maori carving in which the breasts, in any way, exceed in size those of the male. Now Nature has amply provided the adult Maori woman in this respect, and this renders the suppression in the carvings more remarkable. It will be extremely interesting to see how far this custom obtains in other areas.

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Another peculiarity that will open up an interesting field for research is the custom of representing some of the human figures with only three fingers or toes on each hand or foot. Outside of New Zealand this can be seen in old carvings from the neighbourhood of the Fly River in New Guinea, in the Otago Museum, presented by the Rev. J. Chalmers; in some of the gold ornaments from Antioquia, in the north-western provinces of South America,* in textiles from Ancon in Peru, and in a number of other instances which I have collected. The only way to arrive at any sound conclusion on these and other equally interesting matters is to gather the scraps of the materials still remaining, and piece by piece reconstruct the story of the past. A very small and apparently trivial detail may be some day found to be the key of some of those apparently hopeless problems which present themselves at the commencement of the investigations into the past history of by-gone generations. The material for study grows scarcer every year; and even those specimens preserved in the public and private collections of the Colony are in constant danger from fire, which may at any time sweep away unique and valuable relics.

Besides the normal decay and neglect, the museums of the civilised world have for nearly 100 years, through their agents and friends, carried off the most portable and interesting of the carvings, mats, and weapons, leaving but scanty remnants for our local museums.

To publish plates of the specimens of Maori Art workmanship still available in the Colony will be a step in the right direction, and will greatly assist in the study of the Archæology of New Zealand and its relation to the wider subject of the Art of the great Polynesian Nation.

It will be advisable at some future time to endeavour to secure photographs of all the New Zealand specimens in European museums.

The first section of the proposed publication will comprise photographs of some specimens of the elaborately-carved figure-heads and stern-posts of the war canoes—objects that were executed with wonderful skill by the carvers of the East Coast district in the North Island of New Zealand, together with plans of the details of the different kinds of canoes used by the Maoris.

* "Descriptions of the Gold Ornaments . . . belonging to Lady Brassey" (Bryce Wright, London, 1888), page 19, figs. 11-12.

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ON THE CANOES OF THE MAORIS.

TO the Polynesians, the ocean rovers of the Southern Seas—"The great ocean of Kiwa"—the canoe was of necessity their most valued possession, and in its highest development was a noble and beautiful object, being admired by the early visitors to New Zealand as much for its sea-going qualities as for the beauty of its ornamentation. For many years it has been impossible to see any specimen of the first-class canoe in battle order, and now it is only in the Auckland Museum that a specimen can be seen in any way representing the old war canoe or Waka-taua of the Maoris.

The general details of the construction and fittings of a war canoe have been given by Mr. Barstow, in his paper on the Maori canoe, in the Transactions of the New Zealand Institute for 1878,* but there were some kinds of canoe which are not mentioned in that paper which are of interest.† The early works on New Zealand also give fragments of information. Earle‡ states that none but men of rank were allowed to work on the making of a war canoe, and that they laboured like slaves at the heavy task of shaping from the rough log with fire and stone tools, the various parts of the whole. The Tohunga of the tribe always directed the work, each stage of progress being accompanied by appropriate *Karakias*, many of which have been preserved. In connection with each of the historical canoes there are at least seven kinds of *Karakias* which have been used:—

1. The *Karakia* used in felling the tree—*tua*.
2. The *Karakia* used in giving power to the *tokis* or axes to shape the canoe.
3. The *Karakia* used when the canoe was drawn out of the bush, *to-to-waka*.§
4. The *Ruruku* used in "binding" or making propitious the heavens before starting on a long voyage.
5. The *Awa-moana*, to calm the sea.
6. The *Uru-uru-whenua*, used on arrival at a strange land.
7. The *Tuki-waka*, used to give time to the paddlers.

There were also *Karakias* for the naming of a canoe when the priest sprinkled it with water with a branch of *Kawa-kawa* (*Piper excelsum*). The ceremony was accompanied by the sacrifice of a slave.

* "Trans. N.Z. Institute," vol. xi., p. 71.

† See also plans drawn to scale of Maori war canoes from Tolaga and Bream Bays in the "Voyage de l'Astrolabe" Atlas, vol. 1, pl. 60, and descriptions in "History of the Voyage," vol. 2, p. 492, &c. A good drawing of a war canoe is given in "Cook's First Voyage," pl. 15-16 (Hawkesworth), vol. 3; also in Parkinson's "Journal of the Voyage," pl. 18, (1773); and in Stack's "Views of the Province of Auckland, N.Z.," there is a plate of the war canoe race at the regatta of 1862.

‡ Earle, "New Zealand, 1827," p. 110.

§ For Ruawharo's incantation to rouse the ancients and the gods of old to move the canoe Takitumu, see A.H.M. iii., 45; and A.H.M., ii., 155, for another *to-to-waka*.

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HE TUKI-WAKA.*	A CANOE SONG (of the Waikatos).
Tena toia!	Now pull away!
Tena pehia!	Now press her!
Tena tukia!	Now give the time!
Tena tiaia!	Now dip (the paddles)!
Tena kia mau!	Now stick to it!
Tena kia u!	Now be firm!
Hoea, hoea atu!	Pull, pull away.
Urunga, urunga atu, ...	Steer, steer away.
Ki Waipa atu, ...	Away to Waipa.
Tena toia!	Now pull away!
E hara te puhi o tana waka	What grand feathers his canoe has got.
Te oreore!	With a shake!
Te oreore!	With a twist!
Toia! toia!	Pull, pull!
Tiaia!	Dip in (the paddles)!
He tuki!	Give the tune!
He pehi!	Press her!
Werohia kia ngoto, ...	Stick them in deep.
He kukume, ...	A strong pull.
Ae! Ae!	That's it! that's it!
Tena pehia!	Now press her!
Tena tiaia!	Now dip in!
Aue! pehia!	Alas! press her!
He koroheke ki te whana, ...	It takes an old man to move her.
Tihaua ki te whana, ...	Bend to move her.
Tangohia he piko, ...	Fetch to the bend.
Tango mai he rae, ...	Reach another point.
Waiho atu, ...	Leave it behind.
Toia! toia!	Pull away! pull away!

Two kinds of canoe seem to have entirely disappeared, and are only represented in sketches or descriptions. For Polack† says:—"Among the early occupants of New Zealand canoes were made entirely of the bulrush *(typha)*. We have seen between Kaipara and Hokianga‡ one of these vessels of olden time nearly sixty feet in length, capable of holding as many persons, but they are now (1836) wholly in disuse. They were remarkably thick, formed entirely of rushes, except the thwarts, and resembled the model of a canoe in every particular. They were remarkably light, like the coracles of the ancient Britons, though many bundles of rushes were consumed in forming them, and were paddled with much velocity, until saturated, when they settled down in the water."§

* From Shortland, "Traditions of the New Zealanders," 1st ed., p. 140; 2nd ed., p. 168.

† Polack, vol. 2, p. 221. ‡ Polack, vol. 1, p. 218.

§ Mr. Colenso, in his "Fifty Years Ago in New Zealand" (Napier, 1888) mentions (p. 45) "small rafts which he saw hauled up above high-water mark, each being eight or ten feet long and three or four wide, composed of only a few small poles, roughly and distantly, but very firmly, lashed together, with open spaces between them. On these East Coast Maoris went out to fish in deep water, one on each, and when opportunity offered, to a ship with a pig or two fastened to the raft. They said these rafts were quite safe—more so, indeed, than a small or a middle-size canoe, as there was no danger of upsetting." I myself saw these in use in the same district last year.

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Frequent mention is made by early voyagers of double canoes, *Wakaunua* and *Taurua*, with a platform, *pora*, from vessel to vessel, suitable for extended voyages; and an old resident in Otago states that since 1835 he has seen double canoes fishing off the Otago Heads.* Some of Te Rauparaha's southern raids were made in canoes of this kind. Maori tradition says that the *Arawa* had a platform connecting the two hulls, and a house on the top, and that this canoe had three masts.

The large kauris and pines of the North Island enabled canoes of great size to be made. It is on record that remains of a single canoe could be seen at Hauraki in 1855 which measured 110 feet in length.

As an outlet for the decorative genius of the Maori race, the war canoe afforded a fine field for native talent. The large ornamented prow and stern piece —*tauihu* and *rapa*, both removable pieces—had to be carved from the solid log, the *tau-ihu*, or figurehead, requiring a log about four feet in diameter by about five or six feet in length, and the *rapa*, or stern piece, a log about fifteen inches in diameter and from six to ten feet in length, sometimes even fifteen feet. These logs had to be gradually worked down to the required shape and then carved with elaborate conventional patterns.

It will be seen from the examples figured that the types are well marked, but that the elaboration of detail and the style of execution is very varied, the Maori carver possessing the wonderful art common amongst Oriental craftsmen of working out a design to suit any accidents of material or space. The fixed nature of the type may be accounted for by the reverence of the Maori for tradition and the dread of the vengeance of the gods for the least infringement of the principles of the art. Add to this the localisation of the art of war canoe building, almost entirely to the East Coast district, and we can well understand the stereotyped agreement of the component part of the carvings for the bow and stern of the war canoe.

Prominent in the design of a first-class canoe is the elaborate coil work called *pitau*, representing—so I was informed by an old Maori—the young circinate frond of the tree fern *Mamaku*.† The small studs between the coils represents the pinnæ. From it the first-class war canoe was sometimes called generically a *Waka-pitau*.‡ All large canoes had special names, as the "Arawa," the "Tainui," or the "Aotea."

* See "Polynesian Mythology," pages 138-212; also Haberfield, *Otago Daily Times*, February 15th, 1892. Cook saw the first double canoe at Hicks' Bay. In April, 1773, he saw five double canoes in Queen Charlotte's Sound. He also saw a small double canoe in Dusky Sound (p. 85, Hawkesworth). The Natives seen by him in some of the other Sounds had no canoes, but only two or three logs tied together.

† From *Pitau*, the young fronds of the fern tree *(Cyathea.)*

‡ Mr. Tregear says "that the spirals are the emblem of *Winiwini*, the god of the cobweb." Mr. Colenso says "that for the carved figure-heads of their canoes the *pukatea* (*Atherospermum*, N.Z.) was generally used; while the ornamental carved work of the sterns was made of *matai* or *totara*."—*Trans. N.Z. Institute*, vol. i., p. 263.

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The prow usually contains representations of four human figures, all of whom, no doubt, have a significance, but I have only been able to obtain a trustworthy description of some of the parts. Those old men who were well versed in mythological lore and who did know are all dead, and their knowledge has died with them. The same beautiful spiral work *(pitau)* is seen to advantage in the stern post. The little figure perched aloft near the top is sometimes called *Paikea*,* but here again the full explanation is wanting.

The small figure at the end of the figure-head looking into the canoe is called *Huaki*, and the thin board-like central piece with a human figure between two *pitau* spirals is called *Manaia* by the Arawas, or *Tauroa* by the Ngati-porou.§

On the stern-ornament or *Rapa*, the figure looking into the canoe, or that part of the carving, is called *Puhi-kai-ariki*,† the lower portion of the base where it rests on the *Rauawa* or in some cases on the *Haumi*, is called *Puhi-tainga-wai*. The upper portion near the figure, which I have called *Paikea*, is *Puhi-taiapa*.‡

There is another beautiful type of *tau-ihu* which is very scarce, and which appears to have been almost confined to the Northern Districts, especially Auckland and the Waikato. It consists of four parts, instead of being hewn out of the solid block. The central board (or *Manaia* of the usual type) is largely occupied by *pitau* spirals irregularly divided by broad bands, the main one passing diagonally from the upper corner in front to the lower corner behind. In the three or four examples I have seen, the general pattern is the same. This main portion fits into a groove in the middle of the diamond-shaped base, and appears to have been secured by dowel pegs. The transverse portion carrying the *Huaki* figure is supported on each side by human figures, and is elaborately carved. This also fits into a groove cut transversely across the base, and has a groove to receive the end of the *Manaia*. The fourth portion is the front part of the base, and represents a realistic human head well tattooed, without the usual protruding tongue. This is sometimes made removable.

Connecting the *tau-ihu* and *rapa*, and firmly lashed to the *riu* or hull of the canoe, are the topsides, *rauawa*, hewn out of a log, and sometimes carved from end

* This is also a name of the Storm God.
† Judge Gudgeon, per S. Percy Smith.
‡ A good woodcut of a stern-post appears in the *Illustrated London News*, of October 4, 1851.
§ Mr. Tregear says that the figure which lies looking upward with the thin vertical board with the *pitau* spirals dividing him longitudinally, is called *Maui*.

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to end. By means of small holes in the hull and topside these were firmly lashed together with braided undressed flax lashings, and the down of the *Raupo (Typha)* was used for caulking the seams and holes. Outside over the joint is secured a long thin batten painted black *(taka)*. This was firmly bound with flax lashings, and small tufts of gannets' feathers were inserted to cover the lashings, the white feathers forming a striking contrast to the black *taka* or batten and the red sides of the canoe. The part of the hull of the canoe underneath the *tau-ihu* was painted with a beautiful pattern in red, black, and white (*puhoro*). The pattern seems to have its motive in the rippling of the waves.†

The whole of the specimens to be figured in the work will be shown just as they now appear in collections, but it must be recollected that when in use and in gala dress the figure-head had an elaborate wig of feathers, and bunches of feathers extended along the top of the thin central board. From the top of the stern-post hung long ornamental streamers reaching to the water *(puhi-rere)*, made of bunches of the feathers from the tail of pigeon or kaka (*Nestor*).

The prow *(tau-ihu)* was sometimes decorated with two long curving wands *(puhi)* resembling the antennæ of a butterfly, elaborately ornamented with albatross' feathers tied in small bunches at intervals of about a foot.

In Forster's "Voyage Round the World"* he mentions under the date November, 1773, seeing in Queen Charlotte's Sound, "the war canoe in which a war expedition had been made; it had a carved head ornamented with bunches of brown feathers, and a double pronged fork projected from it, on which the heart of their slain enemy was transfixed."

Along the coast of the Central and Southern part of the North Island, I have always found the *tau-ihu* and *rapa* painted the same colour as the canoe—a fine red colour made from *kokowai*, a red ochre or oxide of iron, mixed with shark oil; but in the Northern part of the Island they were generally painted black.

The inside of the canoe was fitted with a flooring or grating of small rods or battens *(kaiwae)*, and the thwarts *(taumanu)* for the paddlers were lashed to the top sides and acted as braces: these were frequently carved at the ends and in the middle.

* Vol. 1, p. 521. † The bottom of the canoe was pierced with a hole to let out the bilge water when the canoe was beached. The *karemu* or plug for this hole plays an important part in the legend of Ruatapu.

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For special expeditions the canoe was fitted up with various conveniences, the fore-part being partly covered in. Paddles (*hoe*) in plenty were provided, and a large and often highly ornamented steering paddle *(urunga)*. The beautifully carved canoe paddles which are seen in collections, in which the blade as well as the handle is ornamented, were mostly weapons of ceremony, and used by chiefs in the war dance. A beautiful specimen with a unique handle has been recently acquired by the Dresden Museum.*

An important article was the *tata* or baler, also called *tiheru* in the North, admirably designed for its purpose, with the handle turned inwards, thus applying the requisite power with the least exertion. In a few instances the handle is made stronger by not being separated at either end from the scoop. There are also some balers with the handle projecting like a sugar scoop.

The sails *(ra*, or *mamaru)* of the canoe were used in favourable weather, and consisted of a triangular mat, made in a peculiar manner from the leaves of the raupo, with the mast and boom forming two of its sides, the point was at the bottom, the upper end was ornamented with tufts of feathers and streamers, the whole being supported by stays and sheets of plaited flax. A large stone at either end, secured by a strongly plaited flax rope, served as an anchor *(punga)*. Grooves were chipped round or holes bored in the stone to enable the rope to be firmly attached, and sometimes the stones were slightly ornamented. The anchor stones of the Arawa canoe were named *Toka-parore* and *Tu-te-rangi-haruru*. Occasionally a flax basket or *kete* is filled with stones and let down as an anchor.

Although the canoes rolled a good deal in a heavy sea, they were capable of travelling at a considerable rate when urged by the rythmical strokes of the paddles of the crew. Then the men sang boat songs led by special leaders *(Kai-hautu)* who animated them to special exertions, and displayed great skill and address in running up and down the canoe, stepping from seat to seat. The steersman sometimes led the chant. The men knelt on the framework *(kaiwae)* made of manuka sticks to paddle, but when going along leisurely they sometimes sat on the *taumanu* or stretcher which connected the topsides. Mr. Shortland mentions a temporary deck of raupo or flax by which the fore-parts of the canoes were covered in for a few feet when making coastal voyages of any length, as a protection against the sea.

* A large plate with figures of both sides of this remarkable specimen, has been issued by the Dresden Museum, Nr. 8569 (1896). See also a sketch in the lithographed sheet of the parts of a canoe in this work.

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When the triangular raupo sails were set the canoes sailed well in a good breeze, sailing very close to the wind, but not having any hold on the water they made great leeway. If there was any sea on, they could not run before the wind in consequence of their great length. When well managed, however, they were kept in the trough of the sea, and thus weathered the numerous squalls so frequent on the New Zealand coasts. In the early years of the present century they frequently left the Bay of Islands fifty or more together, on long coastal voyages as far as Raukawa (Cook's Straits) generally for war, sometimes to trade mats and weapons for *pounamu*. Some expeditions from the Bay of Islands ventured down the coasts of the South Island. The crossing of the Straits was always dreaded, and numerous spells (*Awa-moana*) are preserved which had power to still the waves and winds of Raukawa.

When the large canoes were not in use special shelter sheds (*wharau*) were built for their protection from the weather.

The second class of canoes (*Waka tete*) consisted of those used for fishing parties and river work, or for short journeys.* The figure-head was of a simple type, and consisted of a human head with the tongue conspicuously extended. The portion connecting the head with the canoe was quite plain, but often beautifully shaped, with an elegant curve. The *rapa*, or stern post, was smaller and plain, sometimes having a human figure at the base looking into the boat, as in the more elaborate ones. These were not usually adorned with feathers, but painted red. Canoes of this class are still in use on the East Coast of the North Island for fishing purposes.

The third class consists of the simple dug-out, without topsides or carved ornaments, used for crossing small rivers or for fishing in calm weather. They are called *Waka-tiwai*, *kopapa*, or *tararo*. These canoes were often painted in some of the usual Maori scroll patterns—in red or black and white.

Many very beautiful model canoes are made by the Maoris, but not to any scale. Angas, in his book,† mentions finding a small model canoe placed in a *Wahi-tapu* (cemetery) at Te Pahi, containing some of the property of a deceased chief, and they are not uncommon in collections.

* A plate of Maoris dragging a canoe of this kind down Hawkestone Street, Wellington, is given as a frontispiece to the Guide to a Panorama of New Zealand subjects, exhibited in London in 1849.

† "Savage Life and Scenes in New Zealand," Vol. ii., p. 71.

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Sometimes the hull of a canoe was erected to mark the grave of its owner, and either painted with patterns and adorned with feathers as the one at Ngauranga for Te Wharepouri,* or carved all over as the one formerly in the cemetery at Whanganui.

Occasionally receptacles were made from a part of the hull of a canoe planted in the ground to contain the bones of a chief after the ceremony of scraping and cleaning the bones. The burial chest and the bones were painted red with *kokowai*—a red oxide of iron mixed with oil or fat.

As in Ptolemy we find among the Southern constellations the ship Argo placed for ever in the stars in memory of the voyage for the Golden Fleece, so, according to Taylor,† the Maoris recognised the canoe of Tamarereti as appearing in the neighbourhood of Orion, the three bright stars of the belt forming the stern, and the Pleiades the bow ornaments.



Carved Head from the base of a canoe prow.
(Original in the Museum of the University of Otago.)

* A beautiful specimen is figured in a series of chromo-lithographs from New Zealand Sketches, by R. A. Oliver, R.N., 1852, in a plate called "A Tangi at Motueka." Also in Angas' "The New Zealanders," plate 50, figs. 2 and 3.

† Taylor, "Te Ika a Maui," 2nd ed., p. 363. Also, "Maori Mementoes," C. O. Davis, 173; and Sir George Grey's "Poems, Trad, &c., of the Maori," p. 60.

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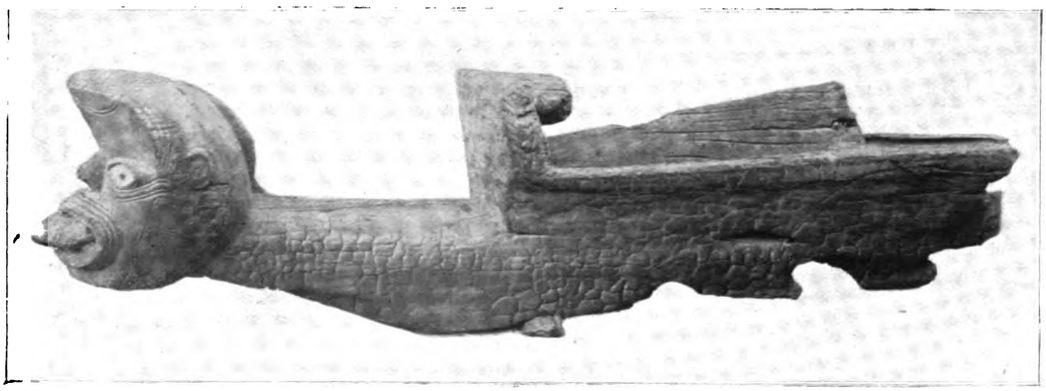


Figure-head of a Small Canoe *(pakurukuru)*. **Taranaki.**

CANOE WORDS.

Ama.—The outrigger of a canoe. The stage between the canoes of a *double canoe*. 2. The thwart of a canoe.

Amatiatia.—A canoe with an outrigger.

Aukaha.—To lash the *rauawa* or bulwark of a canoe to the body of the canoe. 2. The lashings themselves. (From *kaha*, a rope.)

Aurukowhao.—The leakage into a canoe through the holes made for the purpose of fastening on the *rauawa*. (*Kowhao*, a hole ; *uru*, to enter.)

Awa-moana.—An incantation to calm the sea.

Ehu.—To bale water out of a canoe.

Hakuturi.—The wood elves who made the tree felled by *Rata* stand up again, and finally made his canoe.

Haumi.—A piece of wood by which the body of a canoe is lengthened. The hollowed bulky piece of thick wood which is joined on to the ends of a large canoe in order to lengthen and to raise it, stem and stern.

Hauta.—To beat time for the paddlers in a canoe.

Henga.—The edge of the hull of a canoe to which the *rauawa* is fastened. 2. A long slip or lath of wood on the outside of a canoe, covering the joints (= *tokai*)

Hihi.—The ornamented projecting rods of the bow of a war canoe (= *puhi*.)

Hikahika.—Act of pulling a rope ; hence ***taura-hikihika***, an old name for sailors (European).

Hiwa.—An old name for a paddle.

Hoe.—A paddle (= *hirau*, paddle.)

Hokai.—Stay or brace of a canoe.

Horete.—The old Maori drill for making holes.

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Huaki.—The figure on the prow of a war canoe, looking inwards.

Huhunu.—A double canoe. Temporary washboards at the bow of a canoe (*pairi*).

Huti-uti.—A rope (= *taura*, *whakaheke*, *kaha*, *rahiri*.)

Iho.—The *tohunga* or principal person in the bow of a canoe.

Ihu.—The bow of a canoe.

Iri-iri.—To put a strip on the gunwale of a canoe to make both sides equal.

Kaha.—A rope, lashings.

Kaha.—A piece of seaweed stem dried in a native oven and deposited (by Wairarapa natives) as a protecting charm or talisman in the bows of a canoe on every voyage. When not in use it was deposited on the *tuahu*, or sacred altar.

Kahu-papa-waka.—A fleet of canoes. Also *kau-papa-waka*.

Kaipuke.—A ship.

Kai-tuki and *Kai-hautu*.—He who gives time to the paddlers.

Kaiwae.—The floor or deck of a canoe.

Kanohi.—Strand of a rope.

Kaokao.—Side of a canoe.

Kapa.—The row of paddlers on each side.

Kopehu.—The directing god on the bow of a canoe whose duty it was not only to direct the canoe, but to guard it against all evil.

Karoho.—The floor of a canoe.

Kariri.—To sail together in a fleet.

Karemu.—The plug in the bottom of a canoe.

Kauhuahua.—A string-board or horizontal support for the floor of a canoe (*Whaka-wahine*).

Kaunaroa.—The body of a canoe without the *haumi*, &c.

Kei.—The stern of a canoe (= *ta*, *noko*, *paremata*.) 2. The mizzen or after-sail of a canoe.

Keretu.—The thwart of a canoe.

Kiato.—The thwart of a canoe. Formerly the horizontal bar connecting the *ama* with the canoe.

Kiko (*whaka-kiko*).—Patch on a canoe let in like a plug.

Koki.—A small canoe.

Koneke.—Figure-head carved on the body of a canoe (= *toiere*.)

Konia.—A small canoe.

Kopapa.—A small canoe (= *korea*, *konia*, *koki*, *waka* (general), *pinaku*, *tiwai*, *taurua*, *tete*.)

Koporo (*waka koporo*).—A square-sterned canoe.

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Korea.—A small canoe.

Korepi-nui, *Korepi-roa.*—Ancient names for steering paddle.

Korete.—A small canoe.

Kororirori.—To scull a boat (modern).

Kotokoto.—The sheet of a sail. 2. Sprit to extend the sail.

Koue.—Steer with a paddle or oar.

Kowhao matapupuni.—Holes for the lashing which fastens the *haumi* to the body of the canoe.

Kuru.—Tongue on the end of the body of a canoe, which is embraced by the *paihau* or sides of the *haumi.*

Maawe.—The same as *kaha*—a talisman or protecting charm for a canoe.

Manaia or *Tauroa.*—Portion of the figure-head of a war canoe.

Mamaru.—A sail.

Mata-kauwaka.—A fleet of canoes (emblematical).

Mimira.—To fasten the *haumi* to the body of the canoe.

Mimiro.—To draw together the sides of the canoe.

Mokihi or *Moki.*—A raft of bundles of *raupo* or wood.

Mono.—To plug or caulk a canoe.

Neke.—The skids of a canoe.

Ngaringari.—A song to make people pull together.

Ngaro.—A roller used in dragging a canoe.

Ngeri.—A chant used in launching a canoe.

Ngongo.—Sail close to the wind.

Ngongohau.—Jib.

Niao.—The gunwale of a canoe (= *pakura.*)

Owa.—Thwart of a canoe.

Pae.—Transverse supports of the *karaho* or floor of a canoe.

Pairi.—Washboards at the bow of a canoe.

Paewai.—A batten between the *rauawa* of a canoe and the hull, on the inside.

Paharahara.—Plaited flax rope.

Pahi.—A ship—the old name for a sea-going canoe. The large lattice work canoes of the Chatham Islands are called *waka-pahi.* Also used for a large sea-going canoe.

Paihau.—Projecting sides of the *haumi* of a canoe.

Pakokori.—A small house or cabin on a double canoe.

Pakaiahi.—Fireplace on a canoe. 2. The bulwark of a canoe.

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Pakura.—Gunwale of a canoe.

Pakurukuru.—The figure-head of a canoe carved into the resemblance of a human head and body, but without arms.

Panckeneke.—A flat-bottomed boat.

Panoho.—A pole used for propelling a canoe or raft.

Papakaira.—The outer surface of the side of a canoe.

Paparewa.—The deck of a vessel.

Papawai.—The outer surface of the bottom of a canoe.

Papawaka.—The sides of a canoe above the surface of the water.

Parata.—A sea monster; a whirlpool. 2. The projecting part of the bow of a canoe under the figure-head. The seat of heroes and chiefs.

Paremata.—The stern of a vessel (= *kei*, *ta*, *noko*.)

Parengaru.—The washboards of a canoe.

Pawai.—The bilge of a canoe.

Pehi.—Ballast.

Pitau.—A war canoe. 2. The figure-head being carved so as to represent the human body with arms. 3. Also any figure-head except a *pakurukuru*.

Pinaku.—A war canoe.

Pora.—A ship. Canoes with platform. (Platform between two canoes—hence name for such a double canoe.)

Pou-pou.—The shrouds of a canoe mast.

Puhi-rere.—The streamers of feathers falling from the top of the *tau-rapa*.

Puhi or *Hihi.*—Projecting rods from bow of canoe, ornamented with feathers.

Punake.—Fore-end of the body of a canoe to which the *tau-ihu* is spliced.

Punga.—An anchor.

Purengi.—Stay of a mast (= *puwhenua*.)

Purere.—Holes drilled in the pieces of a canoe for the lashings.

Puru-puru.—The caulking material for a canoe, made of *hune*, the flower of the *raupo*.

Puru.—The plug on the bilge of a canoe.

Puwhenua.—The stay of a mast.

Ra.—A sail (= *komaru*, *mamaru*, *whaka-whiti*, *whara*.)

Rahiri.—Rope.

Rakau.—A spar; a mast.

Rangirua.—To sail and paddle at same time.

Rango.—The skid or roller over which canoes are dragged (= *ngaro —neke*).

Rapa.—The stern ornament of a canoe (= *taurapa*).

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Rauawa.—The movable top-sides of a canoe.

Rawhara.—An ancient sail for a canoe (named probably from the Pandanus leaf-sail (= *whara*, *fara*, *hara*, *ara*, in Polynesia.)

Rei, whakarei.—1. The carved work at the bow or stern of a canoe—(original meaning, to carve, to ornament). 2. A canoe with elaborately carved ornaments. 3. The high priest's seat, carved and ornamented with feathers, at the stern of an ancient outrigger canoe.

Rere.—To sail.

Rewa.—The mast of a vessel.

Riu.—The bilge of a canoe; the hold of a vessel.

Ruruku.—The *Karakia* to "bind" the winds to procure a successful voyage.

Ta.—To bale a canoe (pass., *tangia*).

Tatai.—Act of adorning the canoe with shells, feathers, &c.

Tata.—To bale water out of a canoe. 2. A vessel used to bale with (= *tiheru*). 3. Stern of a canoe.

Tahatu.—The upper edge of a canoe sail, often vandyked or ornamented.

Taitai (pass., *taia*).—To bale a canoe. 2. Also to remove the *tapu* from a newly-built canoe, a ceremony accompanied by the sacrifice of a slave.

Taingawai.—Part of the canoe where the water is baled out.

Taka.—The batten which covers the outside of the joint of the *rauawa* of a canoe with the hull.

Takataka.—The lower point of a canoe sail.

Takere.—The keel of a canoe. (Also *tangere*).

Takere-haia.—Dangerous leak in the bottom of a canoe.

Takotokoto.—Sprit on the lower edge of a sail.

Tanekaha.—A double-handled lever used in tightening the *aukaha*.  The line is fastened at A, and leverage obtained against the side of the canoe. When tight, a plug is put into the *kowhao* or hole, and removed when next hole is plugged.

Tau.—To be at anchor—(modern application).

Taumanu.—Thwart of a canoe.

Taura.—Rope; cord—(general name).

Taura whakaara.—Fore-stay of a canoe sail.

Tararo.—A canoe without top-sides or carved figure-head.

Taruru.—A fleet of canoes.

Tauparapara.—An invocation used when dragging a canoe.

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Tau-waka.—A canoe song.

Taurapa.—The stern ornament of canoe.

Tau iri.—A thwart.

Tawharau.—A canoe shed; to lie in a shed.

Teretere.—A fleet of canoes.

Taurua.—A canoe in which nets are carried. 2. A double canoe.

Tauwhare.—The thwart of a canoe. 2. The space between two thwarts. 3. The space between the *riutainga-wai* and the bow or stern of the canoe.

Tawai, or *tiwai.*—A canoe without attached sides.

Tawake.—To repair a hole in a canoe.

Tawe.—Weight on a cable to prevent the anchor from dragging.

Tete.—The figure-head of a canoe, without arms and legs. A canoe with a plain figure-head.

Teke.—To drift with the anchor down, but not touching the bottom.

Tiheru.—A baler.

Tirara.—The edge of a canoe sail.

Tira.—The mast of a canoe.

Tiratu.—The mast of a canoe.

Tiroa.—Modern word for a whale boat.

Tirou.—To move a canoe sideways by plunging the paddle into the water and drawing it towards one.

Tititi.—A canoe song.

Titoko.—The sprit of a sail.

Tiwai.—A canoe without attached sail.

Toanga-waka.—Place where canoes are dragged over; a portage.

Toiere.—Figure-head carved on the body of a canoe, with a projecting piece above it.

Tokai.—Battens or slips of wood covering the joints of a canoe. 2. Perpendicular pieces of wood fastened above to the thwart, and supporting the *kauhua-hua*, on which the *raho* or floor is laid.

Torotoro.—A hawser, to fasten to the shore.

Toiere (waka-toiere).—Large canoe of superior workmanship, with top sides, and much ornamented.

Tokau.—A canoe having side boards, but no figure-head or stern post.

Tete.—The figure-head of a canoe, without arms or legs. 2. A canoe with a plain figure-head.

To.—To drag a canoe.

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Tokihi.—A style of paddling used in Waikato. 2. The song or cry with which this paddling is accompanied.

Toko.—To propel with a pole; act of poling a canoe; the pole so used; a sprit—(modern application).

Tuamaka.—Stout square-shaped flax ropes.

Tuangi.—Projecting edge of the *rauawa* of a canoe.

Tuki.—A canoe song.

Tuki-kai.—Singer, or leader in a canoe song.

Tukuroa.—The back-stay of a canoe mast.

Tumu.—To run before the wind.

Tungauru.—The seat of honour for chiefs near the stern.

Tupa.—Pads of *raupo* on the joints of the head-piece of a canoe.

Tupari.—A short, quick stroke in paddling (Waikato), alternating with the strong plunge of the paddle that gives the speed.

Tute (p. *tutea*).—To shove a canoe with a pole in the water.

U.—To arrive at a place by water. *(Ka u ki uta).*

Ue.—To move a canoe with a paddle worked against the side.

Umere.—Song chanted in dragging a canoe; to sing.

Unua.—To fasten two canoes together, side by side. 2. Double canoe.

Unuku.—A double canoe.

Unukowhao.—Leakage through the holes made for the lashing of the *rauawa.*

Urunga,—A steering paddle. *(Urungi,* to steer; *urungi-kai,* a steerer.*)*

Uta.—To put on board a canoe.

Umu-o-te-tuhi.—A sacred oven in which the chips of a new canoe are burnt with many ceremonies.

Waewae.—The shrouds of a canoe mast *(pou-pou.)*

Waha.—The sheet of a sail.

Wahine, whaka-wahine.—A strip of wood or batten supporting the floor *(karaho)* of a canoe.

Waihoe.—Rate of speed in paddles.

Waka.—A canoe (general name).

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Wakaunua.—Double canoes.

Whakairi-matamata.—To sail to windward; to beat.

Whakaheke.—A rope.

Wakapahi.—A Moriori word for the large raft canoes of the Chatham Islands.

Whara.—The sail of a war canoe.

Whakarei.—Fully carved head and stern of a canoe.

Whakawhiti.—Sail for a canoe or boat.

Waitape.—Back ship; go about.



Transverse Board of Figure-head of War Canoe. Auckland.

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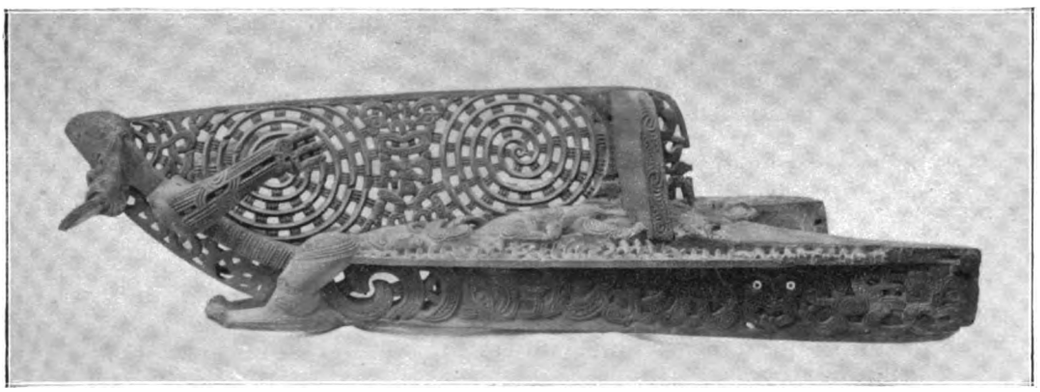


Figure-head (*tau-ihu*) **of War Canoe. Canterbury Museum, Christchurch, N.Z.**

THE HISTORICAL CANOES OF THE MIGRATIONS,

WITH THE

NAMES OF CANOES MENTIONED IN MAORI TRADITIONS AND MYTHS.

Has it not been heard by all
That Tainui, Te Arawa, Mata-atua,
Kura-haupo, and Tokomaru,
Were the great canoes of thy ancestors,
That paddled hitherward over the ocean
That lies before us?

(From the "Lament for Te Tahuri," by Peou, p. 231, *Nga Moteatea.*)—SIR GEORGE GREY.

IN the very full and precise details preserved religiously in the genealogical traditions of the Maoris of New Zealand, we find, in nearly every case, that the voyagers in the great *heke* (comprising, in addition to those mentioned in the verses above, Takitumu, Aotea, and Mamari) found, on their arrival from Hawaiki, about the year 1350, wherever they went along the coast of the North Island of New Zealand, a race already possessed of the soil.

Tradition seems to indicate that these first inhabitants were still earlier visitors of the same Polynesian race, voyagers of the very ancient days, and in several traditions they are mentioned as descendants of Toi or Toi-kai-rakau, whose ancestors came in the Ara-tau-whaiti canoe. Judge Gudgeon has dealt with the subject of these tribes of the North Island in several valuable papers in the "Journal of the Polynesian Society,"* and of the Maori migrations to New Zealand in general. He points out that instead of the voyagers in each canoe, or each group of canoes, being current-carried or wind-driven to our shores, that most of the expeditions were undertaken with a set purpose, or for general discovery and adventure in a particular direction.

* Vol. iii., p. 208.

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It is also clear from his facts that many canoes came to New Zealand, and after staying a short time returned with the whole or a majority of their crew, showing that at a period from 500 to 750 years ago, voyages backwards and forwards between New Zealand and the islands of the Pacific were by no means uncommon. Of the difficulties and dangers the hardy Polynesians made light, and with faith in the power of their spells sailed out fearlessly on a voyage which must have averaged at least a month, and which was probably protracted much longer under unfavourable circumstances. Tradition, however, states that the wind of Pungawere took the canoes of Ngatoro-i-rangi to New Zealand in seven days and nights.*

As in other countries, tradition has peopled the earliest ages with mythical races, commencing in New Zealand with the race of Kui, who were left in charge of the newly dragged up land by the hero-god Maui. Then from across the sea came invaders who took forcible possession, and gradually absorbed and supplanted the race of Kui—Kui the Blind going underground to live. These invaders, the Tutu-mai-ao,† were in their turn supplanted by an invasion of the Turehu from across the sea, who remained masters of the soil until the arrival of other descendants of Maui, the original Maoris who claim to have dwelt on the land of their great ancestor Maui down to the present day.

The warriors who arrived in the great migration of about 1350, peaceably amalgamated with the *tangata-whenua*, or people of the land, as a rule, until they found themselves strong enough to take the upper hand, and then they easily subjugated the original inhabitants and planted themselves so firmly on the soil that excepting in the South Island and in the Urewera country, the earlier people have been, comparatively speaking, lost sight of and their peculiar characteristics either lost or effaced in those of the present Maori race.

It is, as said in the lines at the head of this article, the Tainui, the Arawa, and the other canoes of the Hawaikian *heke* of 1350, that are the ancestral canoes in the eyes of the Maoris of to-day. Those who formed this *heke* were men of somewhat superior force of character, and altogether of a more warlike and adventurous nature, who since the departure from the Central Pacific of the earliest migrants to New Zealand had progressed in development through contact with other branches of the race, during the course of the many voyages which led these adventurous spirits to all parts of the Pacific inhabited by the Polynesians.

* P. M., 102, 106. † A. H. M., iii., 188, 191.

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It was about the close of the period which the traditions of other islands show to have been the "golden age" of their powers of navigation, that the great *heke* to New Zealand took place, and with one recorded exception no canoes have since returned from New Zealand to the islands. Prior to the *heke*, about the year 1350 (which is deduced from a very large number of genealogical tables by allowing 25 years to a generation), there are several instances of canoes having returned to Hawaiki, the starting places of which are known, and in some cases the names of the chiefs who sailed them. From the chiefs who commanded these canoes, especially those of the great *heke*, have sprung many powerful tribes, and even those tribes or families who can trace their descent for generations previous to the Hawaikian migration, prefer to derive their social standing from "the conqueror." The Ureweras express this idea by the saying, "*No Toi raua ko Potiki te Whenua; no Tuhoe te mana me te rangatiratanga.*" "Our right to the land is derived from Toi and Potiki, our prestige and rank from Tuhoe." The Arawas have preserved their genealogies so correctly and carefully that the names of nearly all who came in their ancestral canoe are known, and their descendants can be traced to their living representatives. It is probable that in the case of the South Island, the *Rapuwai*, the *Waitaha*, and the *Ngati-mamoe* were part of the earlier people descendants of Toi, and that their extension over the South was long previous to the great migration.

The details of how the courses of the canoes were kept across the "broad sea of Kiwa," are not certainly known, to some extent the stars and the position of the sun might be utilised, but many other points must have been considered. It is said that the sailing-directions given to the crew of Te Arawa were:—"*Kia whakamau koutou ki a Atutahi-ma-Rehua; ko Atutahi i whakataha nei ki te Mangoroa.*" "Direct your course to *Atutahi-ma-Rehua; Atutahi* that is at the side of *Mangoroa*." *Atutahi* is the star *Canopus; Mangoroa* the Milky Way.

A most interesting specimen of a Polynesian chart * has recently been figured in the Journal of the Polynesian Society, but whether anything of this kind was in use three or four hundred years ago, who can say.

The question of the food available during the passage has been discussed by a learned native, Hoani Nahe, in the "Polynesian Journal."† It probably con-

* J. Pol. Soc., Vol. iv., p. 236. Two sailing charts of similar construction from the Marshall group are given in the Cat. Mus. Godeffroy, 1881. Taf. xxxii. Of the ceremonies gone through when a canoe with a colonising party arrives at the land where it is decided they shall remain, there is an interesting account given by Hare Hongi in the 3rd vol. Journ. Pol. Soc., p. 40. † J. Pol. Soc., Vol. iii., p. 235.

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sisted of *Kao*, dried kumara; dried fish; *Mahi*, preserved bread fruit; cocoanuts (both food and drink), and water was probably carried in calabashes or wooden receptacles.

In such voyages as those of the great *heke*, no doubt, in some cases fireplaces were constructed in the canoe; in modern times it is not uncommon to see them in fishing canoes. The legend of Houmea refers to the heated stones of the cooking-place on the canoe.* No cooked food, however, could be allowed on a war canoe, as they were sacred, and cooked food—even a small fragment—would have made them *noa* or common, and might cause disaster.† It is said that in the Takitumu canoe they lived partly on fish caught whilst on the voyage.‡ This can, however, have only been exceptional.

My "Catalogue of the Ships" will perhaps scarcely rival that in the second book of the Iliad, but as far as possible

"Their names, their numbers, and their chiefs, I sing."



Fishing Canoe. Poverty Bay.

* Colenso, "Trans. N.Z. Inst.," xiv., p. 29 and 32. So also in the Maui Myths given in the A.H.M., ii, 75. Maui hides himself in the cooking place in the bows of the canoe. It is mentioned in another story that Whiro and Tura took *hohere* wood in their canoe as firewood for their voyage.—A.H.M., ii., 17.

† As in the case of the Horouta.—A.H.M., iii., 97.

‡ A.H.M., iii., p. 63.

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LIST OF HISTORICAL AND MYTHOLOGICAL CANOES

MENTIONED IN MAORI TRADITIONS.

NAME.	LANDED AT	CHIEFS ON BOARD.	TRIBES CLAIMING DESCENT.	REMARKS.
Akeake	Whakatane J. A. W.*			
Akiki-a-te-tau ...				Tradition says Tamatea Kaiariki was chief † G.
Aniu-waru A.H.M., iii. 3‡				A name of Rata's canoe; also *Aniwa-niwa*, A.H.M., i. 91. *Niwa-reka* (Ngaitahu), A.H.M., i. 71 *Niwa-ru*, A.H.M., i. 74. *Niwharu*, Wohlers. Trans., N.Z. Inst., vii. 47. *Punui* (Ngarauru), A.H.M., i. 76 The canoe made by the wood-elves for Rata had three names, marking three stages in its construction—1, *Riwharu*; 2, *Tuirangi*; 3, *Pakawai*, P.M., 67§
Aotea (one of the canoes of the great *Heke*)	Aotea, W. coast of North Island	Turi...	Ngarauru, Ngati-raunui, Taranaki	A double canoe. New top-sides were added at Rangitahua (P.M., 133). or Kotiwhatiwha (J. Pol. Soc., ii, 121), or Motiwhatiwha. The names of two of its balers (*tata*) were Tipuahoronuku and Rangi-ka-wheriko (P.M., 131). In this canoe were brought *Kakau* (a kind of sweet potato), *Karaka* seeds, *Para-tawhiti* fern, *Perei* (an edible orchid), edible rats, *Pukeko*, and *Kakariki*.
		Tura A.H.M., ii. 6 Col. Trans. N.Z.I., xii. 141	Ngati-Apa (in part)	
		Tuau	Ngati-Hau	
		Haupipi	Muaupoko (in part)	
		Kewa		
		Tapo		
		Hou-taepo		
		Rangi-potaka		
		Takou		
		Tama-te-ra		
		Tuanui-o-te-ra		
		Uira-ngai-mua		
		Tutawa		
		Rongorongo *(f)*		
		Hine-wai-tai *(f)*		
		Tane-roroa *(f)*		
		Kura-mahunga *f*		
		Tanene-roro *(f)* J. Pol. Soc., iii. 151		

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* J.A.W – J. A. Wilson. *Sketches of Ancient Maori Life and History, 1894.*
† G.– Judge Gudgeon.
‡ A.H.M.—*Ancient History of the Maori*, by John White.
§ P.M.—*Polynesian Mythology* (Sir George Grey).
J. Pol. Soc.—*Journal of Polynesian Society.*
Col.—Rev. W. Colenso, F.R.S.
T.G.H.—Rev. T. G. Hammond.

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NAME.	LANDED AT	CHIEFS ON BOARD.	TRIBES CLAIMING DESCENT.	REMARKS.
Arai-te-uru		Tataitu Kirikirikatata Aroarokaehe Mangaatua A.H.M., ii. 178	 Ngaitahu	Tataitu, said to have been chief (G. J. Pol. Soc., i. 217.) Remained at Murihiku, at Matakaea. The canoe Manuka was made from the other half of the same tree. Stack. Trans. N.Z. Inst., vol. xii. 161. Capsized off Moeraki and her cargo strewed along the beach, now represented by rocks and stones. Trans. N.Z. Inst., vol. x., p. 61.
Ara-tau-whaiti ... G.		Areiawa Tokomaru, Maku		One of the ancestors of Toi-kairakau, Maku, came in this. Probably the earliest of all the canoes.
Ara-tawhao		Tama-ki-hiku-rangi (priest)	Ngati-Awa, Ngai-te-rangi, Te Whanau-a-Apanui J. Pol. Soc., iii. p. 69	Said to have been built at Whakatane, and to have gone to Hawaiki to fetch Kumaras and Taro (J.A.W.) This is one of the best authenticated of return voyages to Hawaiki, and its arrival there was followed shortly after by the departure of the great *Heke* to New Zealand.*
Arahura		Pekitetahua ... Rongokake Rangitatau Hineraho *(f)* A.H.M., ii. 179		In this canoe was brought a greenstone god.
Arawa† (one of the canoes of the great *Heke*)	Whangaparaoa, Bay of Plenty	Ngatoro-i-rangi (priest)... ... Kearoa *(f)* ... Tia Hei Tama-te-Kapua (captain) ...	Ngati-Kearoa, of Whakamaru Ngati-Tuwhare-toa, of Putauaki Tapuika tribe of Maketu, and Ngati-ha, of West Taupo Waitaha, of Te Puke Ngati-Rangitiki Ngati-whakaue Tuhourangi Ngati-Rangiwewehi Ngati-Uenukukopako Ngati-Tama‡, of Motuwhanake and Poutawa and Ngati-Huarere, Moehau	A double canoe in which a greenstone god is said to have been brought. Built at Rarotonga, "on the other side of Hawaiki." Was burnt by Raumati, of the Nga-Marama (one of the ancient tribes) at Maketu. Judge Gudgeon says: "The position held by the crew of the *Arawa* is unique, for we find that out of 16 men of rank who came in this canoe, there are but four whose descendants I cannot trace, though it is quite possible the *Arawa* people themselves may be able to do so. Twelve of these chiefs have known descendants at the present day, not to mention Hatupatu, from whom the late chief Poihipi Tukirangi was known to be descended." G., J. Pol. Soc., i. 222.

* See Judge Gudgeon, *Maori Traditions as to the Kumara*, J. Pol. Soc., ii., 101.

† See "*The Coming of Te Arawa and Tainui*," by Takaanui Tarakawa, J. Pol. Soc., ii. 220 and iii, 199.

‡ See Judge Gudgeon's *Sketch of the History of Ngati-Tama*, J. Pol. Soc., iii. 157.

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NAME.	LANDED AT	CHIEFS ON BOARD.	TRIBES CLAIMING DESCENT.	REMARKS.
Arawa (*continued*)—		Oro	Ngati-Apa, of Rangi-taiki, Bay of Plenty	
		Maaka	Ngati-Tahu, of Orakeikorako	
		Pouheni and Tahu		
		Kurapoto ...	Ngati-Tuwhare-toa, of Taupo	
		Rongomai		
		Ika	Descendants in Taupo and Whanganui	
		Tainihinihi		
		Tutauaroa Whaoa		
		Taikehu Hatu-patu (?)		
Ariki-mai-tai	Taranaki coast			One of the early canoes, whose descendants were found by Turi at Waitara. A.H.M., ii. 177.
Auraro-tuia				The mythical canoe of Maui. A.H M., ii 91; also *Haurarotuia*, A.H.M., ii. 116. *Nuku-tai-mimiha*, A H.M., ii. 70. *Rui-o-Mahui*, Taylor, Ika† p. 127 *Te Pirita-o-te-Rangi*, A.H.M., ii. 113 and 117.
Awarua (J. A. W.)	Matata			
Haere		Tungutu-tan-gata		
		Tungutu-o-te-rangi (G.)		
Hikutoto				The canoe of Whakatau, A.H.M , ii. p 151.
Hira-uta	Tauranga ...	Kiwa		Left at the same time as the *Manga rara*, A.H.M., ii. 191.
Horo-uta	Ahuahu, Bay of Plenty... ...	Paoa*	Ngati-Haua, Upper Whanganui and East Cape tribes ...	Brought young plants of *Kowhai* (Sophora), A.H.M., iii. 67. *Horouta* grounded on the reef Tuki-rae-kirikiri, 140 men on board.
Hotu-te-ihu-rangi ...				Whiro's canoe, A.H.M., ii. 14.
Kapakapa-nui ...			Taranaki-Ati-Awa	No particulars known.
Kapua-horahora ...				No particulars known.
Kapua-rangi				Canoe made by Ngako, in contest with Kupe at Rangi-whaka-oma. A.H.M., ii. 93.
Kauau				Taylor, *Leaves from Nat. Hist. N Z.*, p. 49.
Kauae-taka				A mythological canoe on the other side of the heavens, belonging to the reptile god Mongoroiata or Mangoroa (the Milky Way). There is a man on board called Pupuke.

* See Judge Gudgeon for full list of crew, J. Pol. Soc., i. 77 and 231. For chiefs in Horouta according to J. White, see A.H.M., iii. p. 93. † Taylor, Te Ika a Maui, 2nd edition, whenever quoted.

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NAME.	LANDED AT	CHIEFS ON BOARD.	TRIBES CLAIMING DESCENT.	REMARKS.
Kauria G.		Wharewhare-nga-te-Rangi	Ngati-Hako ...	Gudgeon, J. Pol. Soc., i. 218.
Kotahi-nui (? Tainui)				The first three canoes were the *Arawa*, *Tainui* (which went round the North Cape to Kawhia), and Mataatua. Dieff. N.Z., i. 85.
Kura-haupo*... ... (one of the canoes of the great *Heke*)	East Cape ...	Ruatea (J. A. W.)	Ngati-Whatua...	Or *Kurawhaupo*. This canoe was wrecked at Whenuakura, Hawaiki, but was repaired and re-named *Te Rangimatoru*, Te Rangihokaia being chief. (See under Mataatua, and J. Pol. Soc., iii. 106)
		Rongoueroa ...	Te Rarawa, Aupouri	
		Te Moungaroa	Ngati-Apa and Rangitane of Rangitikei	
		Turu		
		Akurama-tapu	Ngati-Tumata-kokiri (now extinct)	
		Tu-kapua		
			Taranaki-Ngati-kuia, of Pelorus	
			Mua-upoko	
Kura-tawa				Taylor, *Leaves*, p. 49.
Mahanga-atua-ma-tua				A sacred canoe which came from Hawaiki, manned by priests only. A.H.M., iv. 24.
Maka-whiu				The celebrated war canoe of Moki made from an enormous Totara tree, which grew in the Wairarapa Valley. It was buried in a land-slip at Omihi. A.H.M., iii. 207 and 211.
Mahuhu	Whangaroa ...	Rongomai ...	Ngati-Whatua	Believed to have come some generations before the great *Heke*. She finally stayed at Taporapora, Kaipara Heads. Shortland, *Traditions of the N.Z.*, p. 25.
		Tiki...	Aupouri, Rarawa	
		Mawete	Ngapuhi	
Mamari	North Cape ...	Nuku-tawhiti...	Ngapuhi and Te Rarawa...	Finally settled down at Hokianga Heads. Met Kupe on the way near North Cape, learnt from him of Tuputupu-whenua, the chief of the autochthones then living at Hokianga. Canoe finally wrecked at Omamari, a few miles south of Maunganui Bluff. The relics (of stone) are to be seen near Hokianga. At Onoke is a stone called the dog of Nukutawhiti. A rock in the narrows of the Hokianga river is the buoy of the canoe anchor.
		Ruanui		
		Moerewarewa (*f*)		
		Te Pou (J. A. W.)		
Manga-rara	Whanga-o-keno (?)	Wheke-toro ...	Ngati-Porou†...	Left Hawaiki with the *Hirauta*. Brought many animals. Five kinds of lizards, including the *tuatara*, several insects, the birds *torea* and *whioi*. A.H.M., ii. 189.
		Te Wai-o-po-tango		
Manuka	...	Rongo-i-tua ...		Sailed from N. Z. to Hawaiki, for *Kumara*. A.H.M., iii. 112. Stack. N.Z. Inst. xii., p. 161.

*See "The Kurahaupo Canoe," by Te Kahui Kararehe, J. Pol. Soc., vol. ii., p. 186, and by Takamanui Tarakawa, J.P.S., iii. 65. † Until lately the name Ngati-Porou did not properly apply to the tribes living north of the East Cape. They were known as the *Whanau-a-Tu-whakairi-ora*.

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NAME.	LANDED AT	CHIEFS ON BOARD.	TRIBES CLAIMING DESCENT.	REMARKS.
Mata-atua* (one of the canoes of the great *Heke*)	Whakatane ...	Toroa (captain) Ruaauru Manu Whakapoi ... Te Mohiro Weka Mu Wairakewa (*f*) Taoua Muriwai (*f*) Wairaka (*f*) J. Pol. Soc., i. 225 Nuake Nuiho Taneatua Hikaroa Puhi Rahiri Ruaihonga Akurama-tapu Tukapua Waituhi Kaki-piki-tua (*f*) Te Moungaroa Tioru J. Pol. Soc., iii. 65	Many Ngati-Awa tribes of east coast ... (J. A. W.) Taranaki Ngati-Kahungunu Urewera	Made from the other half of the tree out of which the Aotea was made. The *taro* was brought by Ruaauru in this canoe A.H.M., ii. 181. "Mataatua is the canoe, Toroa is the man," is a well-known saying on the east coast. According to Hammond (J. Pol. Soc., iii. 106), the crew of the wrecked Kurahaupo came on in the Mata-atua, but still regarded themselves as Kurahaupo. Mataatua is said in an old Ngati-awa *Karakia* to have been known in Tahiti as Tuamatua.
Mata-hourua... ...	North Cape, came as far as Whanganui-a-Tara, Port Nicholson (Wellington)	Kupe† Rete	Mua-upoko, of Horowhenua and Mahure-hure hapu, of Ngapuhi ... Ngati-Kahungunu (in part)	Or Nga-mata-whao-rua, a sister ship to the Aotea. Said to have come to N.Z. just before the great *Heke*. Kupe returned to Hawaiki, and by his experiences Turi laid his course for N.Z. Kupe is said to have taken this canoe from Reti, who was a great explorer. P.M., 129, A.H.M., ii. 177. Hokianga-o-Kupe, now known as Hokianga, was his point of departure from N. Z. "E hoki Kupe."
Matiti...			Waitaha, of South Island	No particulars known.
Moe-Kakara	Cape Rodney...		Kawerau... ... Ngati-Rongo	This is identical with the Waka-tu-whenua. Nearly all who came in her died of leprosy, introduced in her. A few of the Kawerau people of North Auckland claim descent from her crew.

* See "The Coming of Mataatua, Kuruhaupo, and other Canoes," by Takaanui Tarakawa, J. Pol. Soc., iii. 65.
† See "The Coming of Kupe to New Zealand," by Te Whetu, J. Pol. Soc., ii. 151.

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NAME.	LANDED AT	CHIEFS ON BOARD.	TRIBES CLAIMING DESCENT.	REMARKS.
Motu-motu-ahi ... G.		Puatautahi ...	Ngarauru and Ngati-ranui...	A.H.M., ii. 182. Taylor, Ika, p. 290.
Te Mua-ki-A... ...				Or Te ru-ngakia, probably should be Te-runga-ki-A. The *pahi* or canoe of Ruakutea, the wife of Tama. A.H.M., ii. 37.
Ngaengae-moko ... G.				Nothing known beyond the name.
Nukutere G.	Marahea, east coast	Whironui Araiara (*f*)... A.H.M., iii. 41 Takataka-pu-tonga Marere-o-tonga A.H.M., iii. 41 Ngamu Ngaipeha	Ngati-Hau ... (J. A. W.) Ngati-Porou and Urewera (G.)	Arrived at N. Z. eight months before the Flood, Te Tai a Ruatapu (see Colenso Trans. N.Z. Inst., xiv. p. 26. A.H.M., iii. p. 9 and 41).
Otu-rere-roa	Ohiwa	Taikehu		It is said that Turongo was chief of Ohiwa when this canoe came.
Pahi-tonoa				A canoe that left Hawaiki for Te Wairua-ngangana to get *Taro* plants, but was wrecked. T. G. Hammond, J. Pol. Soc., iii. 105.
Pakihi-kura	Ohiwa		Ngariki	A.H.M., ii. 202. J.A.W., No. 7.
Panga-toru		Rakeiwananga-ora		Or Papakatoro. It is said that the men of this canoe were repulsed by the people of the land, and so returned without settling in N.Z. A.H.M., ii. 181.
Pau-iraira		Rakautaura ...		This canoe is said to have returned to Hawaiki, and that from the crew Kupe got his knowledge of N. Z. A.H.M., ii. 188.
Puhi-taniwha ...			Ngapuhi	J.A.W., No. 10.
Pukatea-wai-nui ...	Maketu	Ruaeo		Ruaeo's expedition, with 140 of his followers, to recover his wife. P.M., 91.
Pungapunga			...	This was probably the name of the canoe of Taukata and Hoake, who brought the news of the *Kumara* to Tama-ki-hikurangi, and was the cause of the building of the Ara-tawhao and her voyage to Hawaiki.* It is also said that the traditional block of pumice on which Tura escaped from the battle of Maikukutea, was one of the canoes of the fleet of Tini-o-Manahua, called Te Punga-punga (pumice).
Punga-rangi	Rurima and Wairarapa ... (J. A. W.)		Nelson Natives	
Rakau-tapu	Whakatane (J. A. W.)			

* An interesting version of this story (as told by the Mataatua tribes) in the Ure-wera country is given by Elsdon Best "In Ancient Maoriland." Rotorua, 1896, p. 10 and p. 45.

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NAME.	LANDED AT	CHIEFS ON BOARD.	TRIBES CLAIMING DESCENT.	REMARKS.
Te Rangaranga ...			Taranaki-Atiawa	No particulars known.
Rangi-matoru ...	Ohiwa	Hape	Ngati-rangi ... (J. A. W.)	The protecting deity of this canoe was Tu-kai-te-uru. J. Pol. Soc., v. 2. The crew lived peaceably with the aboriginal Whakatohea, and ultimately became incorporated with them. J.A.W., p. 39.
		Rangiwhakaia (captain) ...	Ngariki	
Rangi-pae-nono ...				The canoe of Tawhaki.
Rangi-ua-mutu ..	Rangiatapu (Taranaki) ...	Tamatea-rokai	Ngati-Ruanui and Ngati-awa, west coast	Also *Rangi-mutu* and *Rangi-ua-mate* and *Tairea*. On landing the crew saw Moa bones and the ovens of the Autochthones. A.H.M., ii. 183.
Rangi-whakaoma ..				Canoe made by Kupe in his contest with Ngako. A.H.M , iii. 93. (See Kapua-Rangi.)
Rere-anini	Whangara (near Gisborne) ...	Rongomaituahu	Rongo-whaka-ata tribe	
Rewarewa	White Island and Wakari ...	Tane-whakaraka		Or *Huru-huru-manu*, or *Utu-pawa*. The canoe of the wives of Manaia, the sisters of Ngatoro-i-rangi, when they fled to N.Z., carrying with them the gods Maru, Iho-o-te-Rangi, Rongomai, Itupawa, and Hangaroa. J. White Lect. (G.), p. 123.
		Kuiwai (*f*)		
		Haungaroa (*f*) J. Pol. Soc , i. 213		
Rimu-rapa				Taylor, Ika, p. 29; *Leaves*, p. 49.
Ririno...		Porua		Lost with all on board on the reef of Taputapuatea (P. M., 134) on account of Potoru eating part of the dog offered to Maru by the chiefs of the *Aotea*, at the island of Kotiwhatiwha. J. Pol. Soc., ii. 121.
		Potoru		
Riu-kakara	Whangaroa ...			The descendants of this canoe are mostly exterminated, but some are amongst the Te Rarawa tribe.
Te Ru... (J. A. W.)	Matata			
Rua-karamea ...	Mangonui ...	Te Uriparaoa...	Ngapuhi... ...	A stone at Mangonui marks the spot where the canoe finished her voyage.
		Te Papawai	Te Rarawa	
Taha-tuna				A.H.M., ii. 178; Taylor, Ika, 291.
Tahuri-te-arorangi ...				A canoe made by Tama-tuna, under water. Taylor, Ika, 285.
Tainui (one of the canoes of the great *Heke*)	Whangaparaoa	Rakataura ... (Ariki and priest)	Waikatos ...	Left at Kawhia. Judge Gudgeon gives the names of twenty-four of the crew (J. Pol. Soc., i. 224). The chiefs given are the only ones whose descendants are living at the present day. The canoe is represented by rocks at a place called Paringatai, near Kawhia. P.M., 90; A.H.M., ii. 177.*
		Hotunui	Ngati-Haua	
			Ngati-Maru	
		Hoturoa (captain)	Ngati-Maniapoto	
Tairea...				Taylor, Ika, 291; A.H.M., ii. 178.

* The promontory of Phalacrium was considered to be the ship of Ulysses metamorphosed. Solinus 11, § 2, Ed. Mommsen, p. 60.

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NAME.	LANDED AT	CHIEFS ON BOARD.	TRIBES CLAIMING DESCENT.	REMARKS.
Takitumu (one of the canoes of the great *Heke*)	East coast ...	Whakaroao ... (Ariki and priest)	Ngati-kahungunu ... A. H. M., ii. 193	Called *Horouta* on her second voyage. A.H.M., iii. 74. Supposed to be represented by the Takitimu Mts. in Southland. On its first voyage it was so sacred that food could not be carried therein, therefore only gods and chiefs were placed on board. The god Kahukura, made of totara and represented without feet, was brought by Ruawharo Judge Gudgeon thinks that the claim of Ngati-kahungunu to this canoe cannot be supported. The fastest sailer of the fleet. A.H.M., ii. p. 193, and iii. p. 46, 63, 72.
		Ruawharo	Ngaitahu	
		Ngarangitere-mauri		
		Tohi-te-uruangi		
		Te Iri-angi		
		Te Whaka-wiringa		
		Te-kauru-o-te-rangi		
		Manu-tawhio-rangi		
		Te Aonoanoa		
		Paikea (captain) (J. A. W.)		
Tane-tewha				Trans. N.Z. Inst., vol. i., 446.
Tauira	Whangaparaoa	Motatau		J. Pol. Soc., iv. 182.
Tawaowao				Taylor, Leaves, p. 49.
Tere-anini G.		Pouheni		One of the early canoes.
Tere-hapua				The same as *Tu-te-pewa rangi* or *Rangi-pato-roa*, the canoe of Ruatapu. A.H.M., iii. 54.
Te-Uanga-ki-o-kupe				Taylor, Leaves, p. 49.
Toki-a-tapiri				The canoe described by Barstow. Trans. N.Z. Inst., vol. xi. (This is the canoe of the Auckland Museum.)
Toko-maru (one of the canoes of the great *Heke*)	Whangaparaoa	Rakeiora (priest)	Atiawa	Or *Tonga-maru*.
	Tokomaru ... (J. A. W.)	Manaia (captain)	Ngati-Maru, of west coast ...	Manaia is said to have killed aboriginals at Waitara, perhaps descendants of the crew of the *Ariki-matai*. P.M., 233. A.H.M., p. 177 and 181.
		Tu Urenui	Ngati-Tama	
		Te Rangitata	Ngati-Mutunga	A priest named Rakeiora was brought in this canoe, and was left at Tongaporutu, Taranaki, and subsequently deified. A rock at Mokau is called Te Punga-o-Matori, supposed to be an anchor of this canoe. P.M., p. 232.
Toroa				A.H.M., ii. 179.
Totara-i-karia* ...				This canoe made from a buried tree to replace the burnt *Arawa*. The canoe went with a war party (*ope*) to Hawaiki with Ngatoro-i-rangi, to avenge the insults of Manaia, and then returned to Maketu. P.M., 170.

* Gudgeon, "Maori Migrations," J. Pol. Soc., i. 213.

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NAME.	LANDED AT	CHIEFS ON BOARD.	TRIBES CLAIMING DESCENT.	REMARKS.
Tu-te-paerangi ...				The same as *Hurepureiata*, the canoe borrowed from Heroa by Ruanuku (Uenuku). A.H.M, iii. p. 14 and 23.
Tu-te-pewa	Moehau	Paikea	Ngati-Porou and Rarawa...	A.H.M., iii. p. 54.
Tu-te-puehu				Nothing known beyond the name.
Ua-piko				The canoe that shot the Huka falls on the Waikato, with Tamatae and his thirty companions. Ririwai jumped ashore at the entrance of the race, all the rest were drowned. A.H.M. iii., p. 76.
Uruao...		Rakaihaitu ... Rangihouia J. Pol. Soc, iii. 14	Ngati-Waitaha	Claims to be the first to colonise the Islands. Came from Tapatapahanga-a-Taiehu. J. Po. Soc., iii. p. 9 and 14.
Uriwera			Ngati-Awa ...	J.A.W., Anc. Maori Life and Hist, p. 7.
Waipapa	Taipa, near Mangonui ... (G.) Oruru (J. A. W.)	Kaiwhetu ... Wairere	Ngapuhi (J. A. W.	
Waka-tane	Whakapaukorero, West of Matata (J. A. W.)			
Waka-ringaringa ...	Kaupokonui, near Waimate, Taranaki ...	Mawakeroa ..	Ngati-Ruanui...	A.H.M., ii. p 182.
Wai-kerere			...	A canoe which left Hawaiki but never arrived in N Z.
Whaka-teretere-te-uru-rangi ...				The canoe of Tama, A.H.M., ii. p. 45.
Whatu-a-rangi-nuku	Near Wairarapa Lake ...	Tahuwera	Waitaha-turauta Ngati-Makino	J. Pol. Soc., iv. p. 178. The consort of the *Arawa*, which carried those who could not come in the *Arawa*.
Whiri-toa				One of the fleet in which Whaka-tau sailed to burn the temple known as Te Uru-o-Manono, the *whare-kura* of Hawaiki (P.M., 62). The other canoes were:— *Tapatapa-nukarere.* *Hakirere.* J. Pol. Soc, iii p. 105. *Toroa-i-tai-pakihi.* *Mihunu.* *Awatea.*

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Part of a Canoe, carved and erected as a Memorial to a deceased Chief.

Formerly in a Native Burial Ground at Wanganui.

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DESCRIPTION OF THE LITHOGRAPHIC PLATES

OF THE

PARTS OF A MAORI CANOE.

PLATE 1.

During the stay in New Zealand waters of the French Scientific Exploring Expedition, under Dumont D'Urville, a number of valuable ethnological observations were made, and these are now all the more interesting, inasmuch as they are faithful records of many things which were then in existence, but are now quite lost. The three canoes given in the plate are from the Atlas of Plates to the account of the Voyage, and are carefully drawn to scale from measurements made on the actual canoes seen along the coast of the North Island. They show the varieties of the methods of constructing the grating or flooring of the canoe, and the general arrangement of the fittings. In the second *waka-pitau* there is an additional gunwale or bulwark at the bows as a protection against the waves. In the top corner of the plate is a little sketch of a war canoe under sail on the Taranaki coast, after a drawing by Angas. It shows a local variation in the shape of the *raupo* sail-mat. In the lower part is half of the diagram of a Maori canoe (not drawn to scale) with the names of the various parts marked. Full explanation of the terms used will be found in the glossary of words.

PLATE 2.

In addition to the diagrams given in this lithograph of the usual sails and paddles of a canoe, are five forms of paddles of greater rarity.

Figs. 1 and 1A are two views of a splendid example of a chief's ceremonial paddle with an unusual form of handle, involving great difficulty in the construction.

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The specimen has recently been purchased for the Dresden Museum from an English dealer. The Museum authorities have issued a very fine collotype reproduction of it. It was originally obtained in the Bay of Islands by Captain Chegwyn* in 1836, from a chief named Titouri (Titore).

Fig. 2 is a very long narrow paddle, the blade of which is slightly hollowed, and a mid-rib passes for some distance up the centre, quite unlike any northern form of *Hoe*. The ornamental portion at the end of the handle is unique in form in New Zealand. It was found on the banks of Waipori Lake in Otago, at a depth of three feet from the surface.

The length is unusual, being about 8ft. 6in., of which the blade is 4ft. The width of the paddle at its widest part is only 3¾in.

Otago University Museum.

Fig. 3 is a strong and heavy paddle, somewhat roughly made of manuka *(Leptospermum)*, with a raised ornament on the commencement of the blade, probably as a mark of private ownership. This was also found on the banks of a lake at Waihola, in Otago, about two feet below the surface.

The extreme length is 5ft. 9in.; length of blade, 2ft. 3in.; width, 5½in.

Otago University Museum.

Fig. 4 is a paddle found at Bendigo, near Cromwell, Otago. The pattern of the raised fork projecting on to the flat of the blade seems to indicate a recollection of paddles in which the blade was a separate piece of wood. A specimen of the same form was found in Monck's Cave, near Sumner, and is figured in Trans. New Zealand Inst., vol. XXII., pl. ii., fig. 3. The workmanship is poor, but the handle shows signs of much use.

The length is 5ft. 10in.; length of the blade, 2ft. 9in.; width, 5½in.

Otago University Museum.

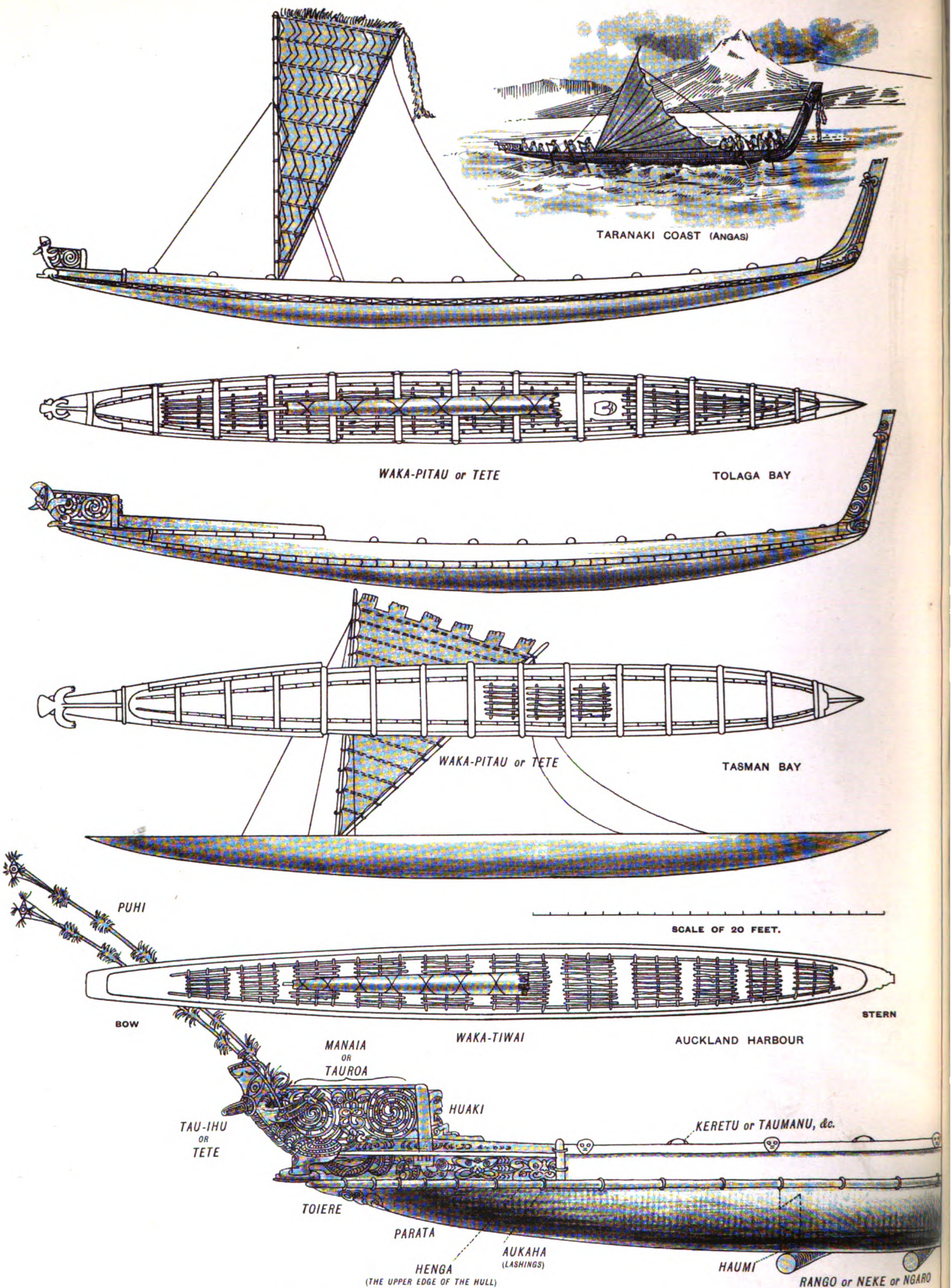
Fig. 5 is perhaps of the greatest interest. It is of unusual length and weight, and of peculiar form, as may be seen from the sections. It was found some years ago in a cave at Strath Taieri, Otago. No other example is known, but a similar paddle is drawn in "Cook's Voyages" (Hawkesworth,† pl. liii.), in the plate representing a Maori family seen in Dusky Sound—another instance of the fidelity of the

* There is a specimen with a somewhat similar open handle in the Belfast Free Library and Museum ("Ethnographical Album of the Pacific Islands." Edge-Partington and Heape. Plate 229, fig. 3), and I have seen one handle of the same pattern on a fine old paddle from the Bay of Islands, the blade of which was painted with scroll patterns, but not carved; and I have a photograph of a good one which is, I believe, in the Auckland Museum.

† Reproduced in "The New Zealanders," Plate 20.

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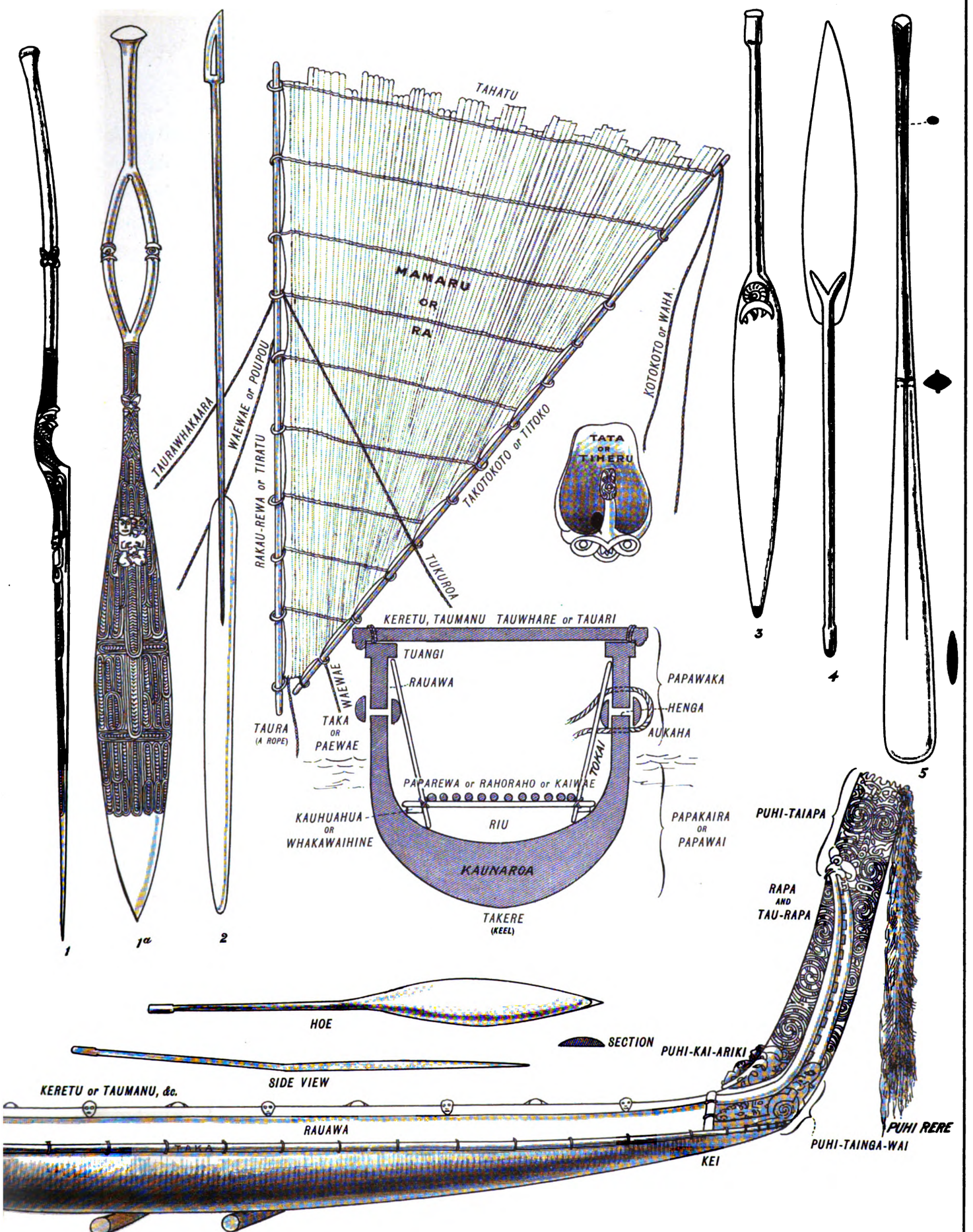
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PLANS (TO SCALE) OF MAORI CANOES.

FROM VOYAGE DE L'ASTROLABE. D'URVILLE—PLTS. 35-60.

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DIAGRAMS OF THE PARTS OF A MAORI CANOE.

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draughtsman of that remarkable work. The shape and strength, as well as the weight of this paddle, would make it a formidable weapon, in the hands of a powerful man, and the general form recalls some of the fighting clubs from the Pacific Islands. It possesses great interest, as being at present a unique example of a paddle of the old original tribes of the south-west of New Zealand. The holes at the angles of the centre portion are so small that they can only have been used for the purpose of affixing a small ornamental bunch of feathers or dog hair. It closely resembles some paddle-shaped clubs from the South-East Pacific, figured in the "Edge-Partington Album," pl. 43. The specimen figured is now in the collection of Dr. T. M. Hocken, of Dunedin.

The length is 7ft. Width, 5¾in.



Fragment of a Canoe Prow found on the Beach at Lyttelton by one of the Early Settlers.
There is a Tradition that it belonged to one of the Canoes of Te Rauparaha's Expedition.
Now in Canterbury Museum.

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Huaki-figure on the *tau-ihu* of a War Canoe.

Colonial Museum, Wellington.

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PLATES.

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No. 1.

Figure-head *(tau-ihu)* **of a War Canoe.**

A very typical example of the *tau-ihu*, or carved figure-head of a New Zealand war canoe. Between the two double spiral coils *(pitau)* on the central board, or *manaia*, is seen a human figure, and below it another conventional face. The execution of the work on this specimen is of the highest degree of excellence. It is now in the Canterbury Museum, Christchurch.

The extreme length is about 5ft., and the height 2ft. 6in.

The locality from which it came is probably a little to the north of the East Cape.

No. 2.

Figure-head *(tau-ihu)* **of a War Canoe.**

A fine and well-preserved *tau-ihu* in the collection of the Colonial Museum, Wellington. This specimen, having a good example of the *Huaki*, or figure looking into the canoe, is perhaps the fullest type of this class of figure-head. In both of these carvings it will be noticed that the figures are represented with three fingers only to each hand—a conventionalism common to nearly all old Maori work. The specimen still retains its original colouring of red ochre mixed with oil. The upper part of the forehead of the tongue-protruding figure is painted of a yellow colour.

Length, 4ft. 6in. Height, 2ft.

Locality: East Coast of North Island.

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PLATE I.





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No. 3.

Figure-head *(tau-ihu)* of a War Canoe.

An interesting specimen of less elaborate workmanship. The same parts are present as in No. 2, but show much degeneration. The *Huaki* figure and the figure between the spirals are represented as looking forward. Both are so altered that they would probably escape recognition, if not compared with other examples. The face at the bottom of the spirals is shown more plainly; it is also in a side-view position. The leg of the foremost figure is lost. This specimen is in my own collection, at present in the Museum of the Hawke's Bay Philosophical Institute, Napier. It belonged to a large canoe at Te Mahia, at the northern end of Hawke's Bay.

The length is 5ft. 2in., and height 2ft.

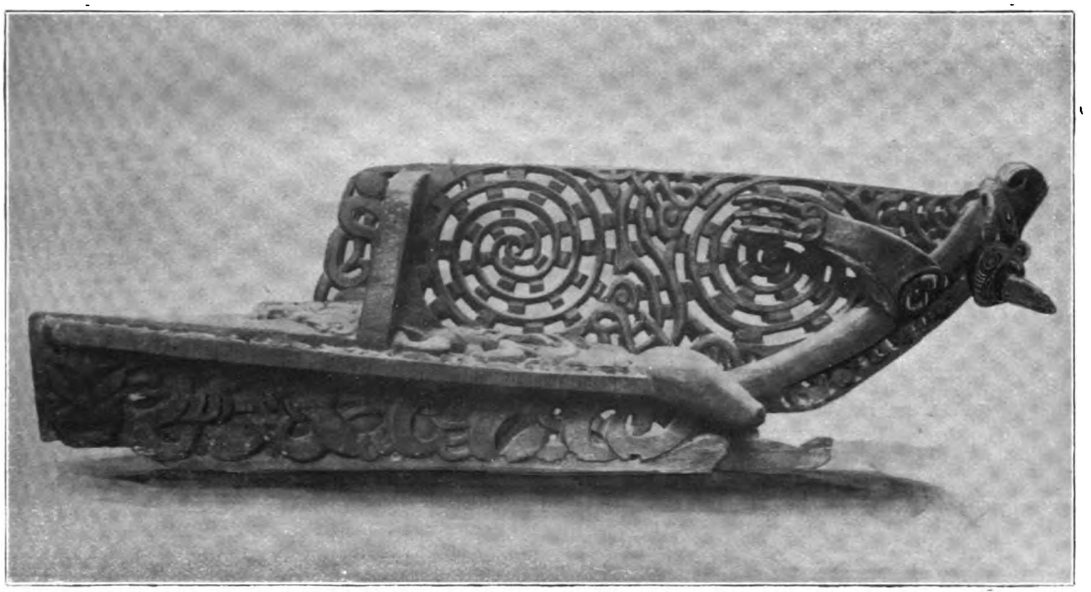
No. 4.

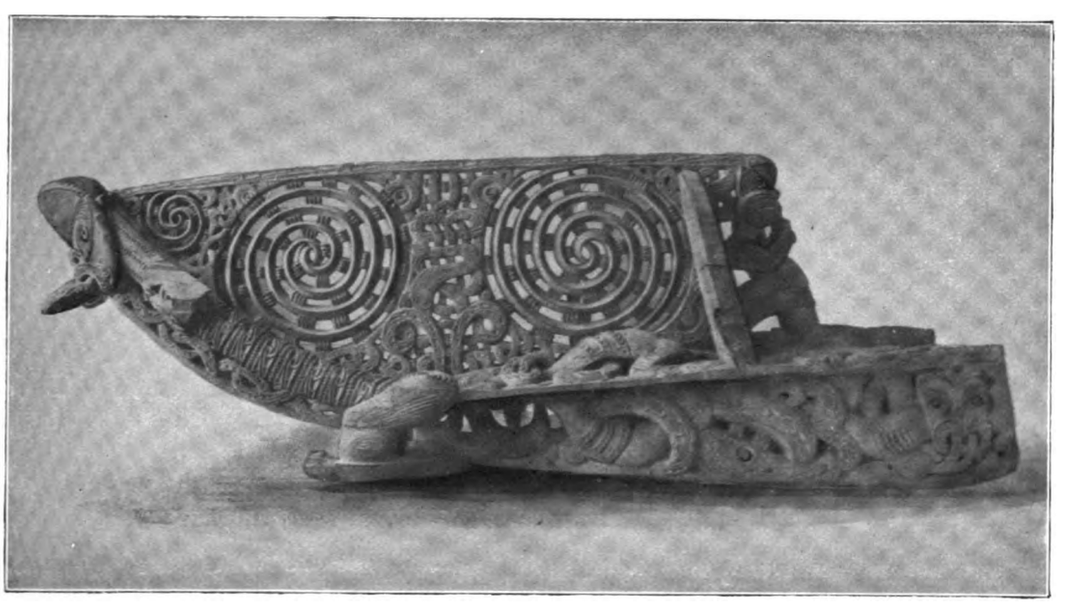
Figure-head *(tau-ihu)* of a War Canoe.

A well-carved *tau-ihu* or figure-head of a war canoe, which has at some time in its history lost an arm. Here the figure on the thin central board, and the face beneath, closely resemble those in No. 1. The face, however, has diminished to the symmetrical curves indicating the mouth and tongue. This specimen was obtained at Waikanae, on the west coast of Wellington, but it probably was carved by east coast Natives. Canoes, being of great value, were often conveyed to long distances from their place of manufacture, either as spoils of war, or as presents, or, in later times, in course of trade.

Length, 4ft. 7in. Height, 2ft. 3in.
Colonial Museum, Wellington.

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No. 5.

Figure-head *(tau-ihu)* **of a War Canoe.**

This is an interesting specimen, in which, either as the result of accident or design, the flat portion with the prostrate human figure beneath the *pitau* spirals is absent, being replaced by two bold open spiral forms—not new to the design, but much accentuated. The open spaces will be found in nearly all the figure-heads, but not to this extent. I have seen but few of this remarkable form. In this, as in No. 6, four fingers are represented. The locality from which the specimen was procured is not known, but I am inclined to think that it is from the west coast of the North Island.

Length, 4ft. Height, 2ft. 4in.

It is in the Colonial Museum, Wellington.

No. 6.

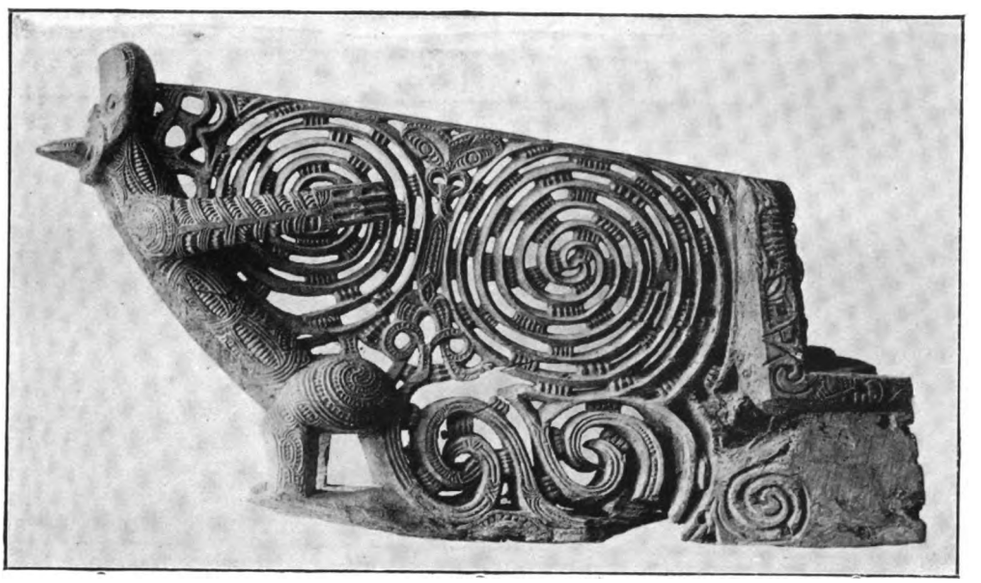
Figure-head *(tau-ihu)* **of a War Canoe.**

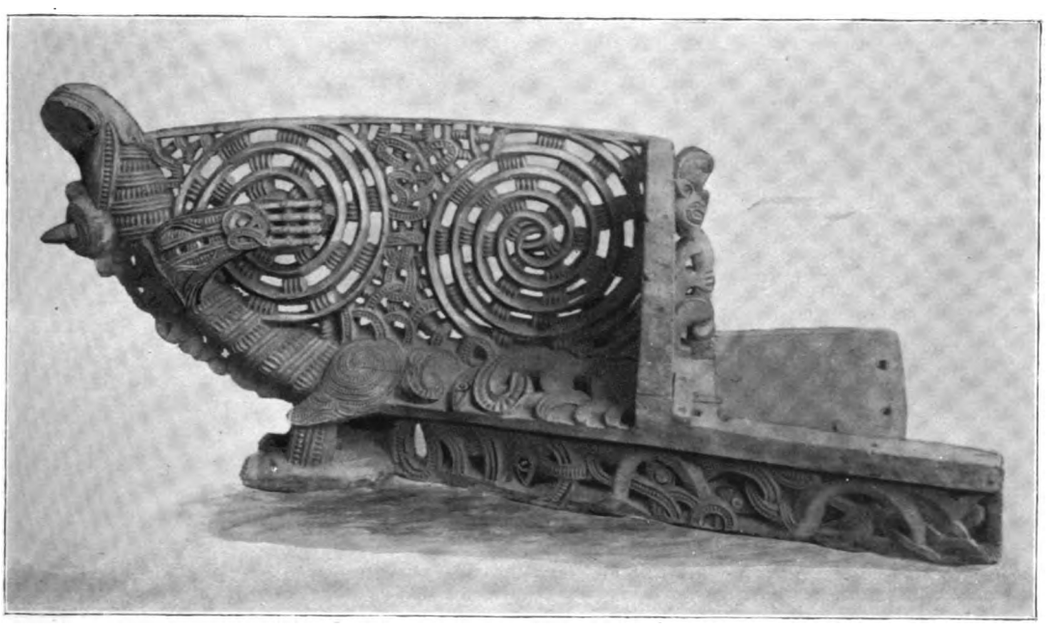
A small but typical specimen of perhaps rather more modern work. The grotesques or mythical monsters on the under part of the prow are treated on a different style to the preceding examples, and it has the usual figure on the flat surface, each side of the base of the central board.

This *tau-ihu* is now in the Canterbury Museum, Christchurch.

Length, 4ft. 9in. Height, 2ft. 1in.

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No. 7.

Figure-head *(tau-ihu)* **of a War Canoe.**

In most of the museums of the Colony there are model canoes made by the Maoris, but none of them are proportioned to scale. The Colonial Museum at Wellington has several good specimens of these models, and has also the carved bow and stern pieces for a model canoe, shown in the figure. Setting aside the question of scale, it will be seen that these examples are carved with great skill, and combine all the details of the real ornaments in a most masterly manner.

Length of prow *(tau-ihu)*, 19in.; height, 11in. Width of stern-post *(tau-rapa)*, 8in.; height, 16in.

Colonial Museum, Wellington.

No. 8.

Figure-head *(tau-ihu)* **of a War Canoe.**

A most venerable relic worthy of every care, if only for the very archaic character of the carving. Long exposure to the weather is probably responsible for the advanced state of decay, but the style of work points to a very early date, and to very inadequate tools. This is one of the few specimens to which a tradition has become attached, for it is said that it formerly belonged to a war canoe owned by the great Rangihaeata, the comrade of Te Rauparaha.

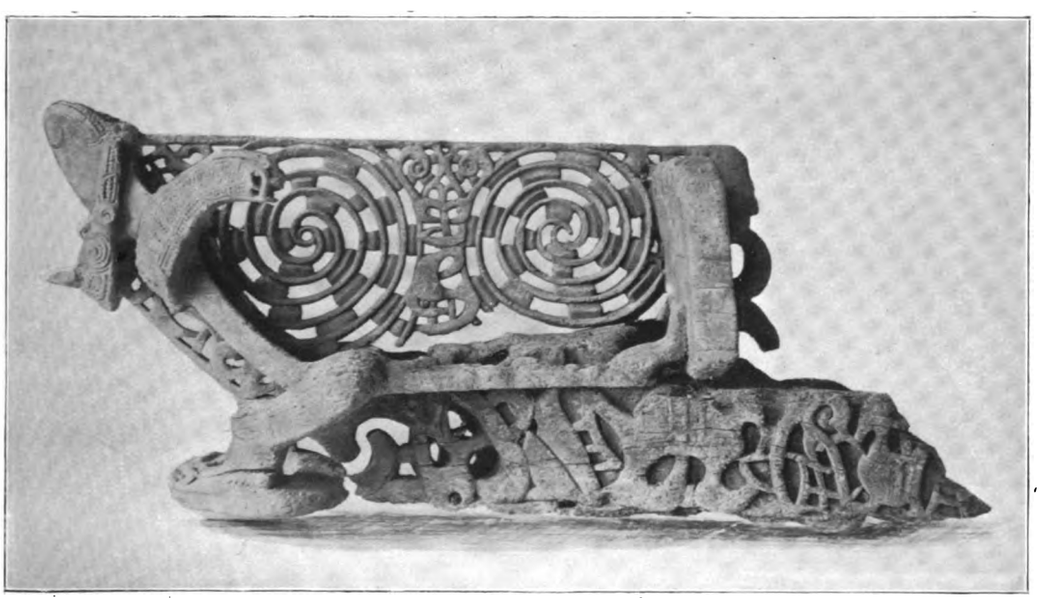
Length, 4ft. 6in.; height, 2ft.

It is now in the Colonial Museum at Wellington.

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PLATE IV.





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No. 9.

Part of the Figure-head of a War Canoe. Auckland.

The central board of the Northern type of *tau-ihu*, or canoe prow. In this beautiful piece of work the artist has introduced a flowing spiral superior to the designs ordinarily met with. I regret that I cannot state where this specimen is to be found. The figure given is taken from a photograph kindly sent to me by Mr. S. Percy Smith, who procured it in Auckland with some others in an album, concerning which no particulars could be obtained.

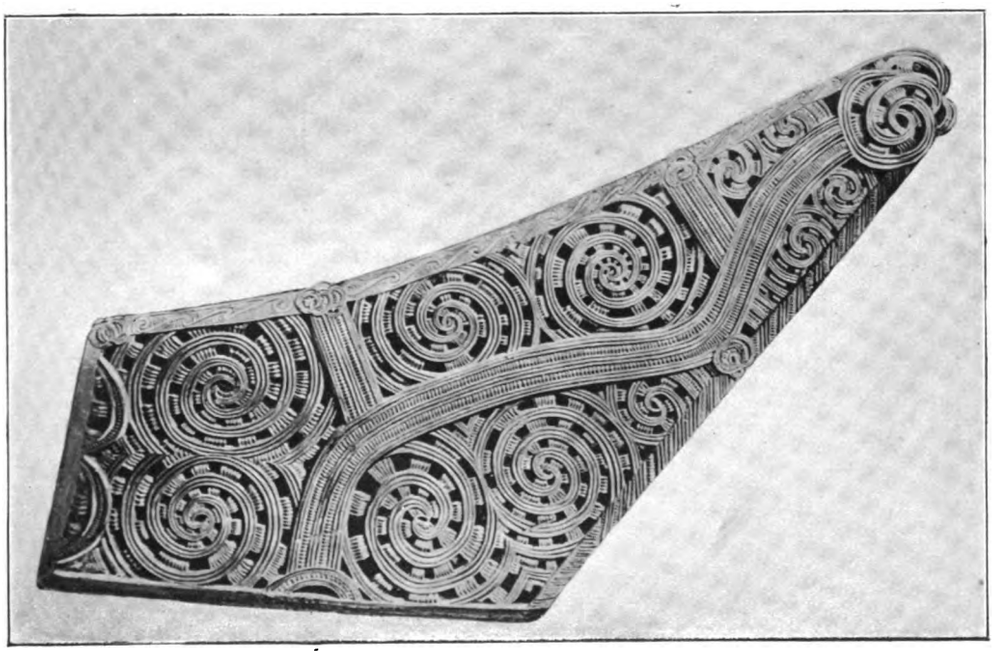
No. 10.

Part of the Figure-head of a War Canoe. Auckland.

Is a similar portion of a canoe prow, reproduced through the kindness of Burton Brothers, of Dunedin. In the original photograph it appears to be about five feet in height, judging by the figure beside it. The three examples of this type figured in this work show the same general leading lines—a waving or undulating main stem or band passing diagonally from the lower corner to the upper, and from that issue two secondary bands or stems, passing more or less vertically to the upper margin. This carving is also reproduced in the Volume of Illustrations prepared for White's "Ancient History of the Maori." 1891.

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No. 11.

Figure-head of a Canoe.

To the present day canoes with figure-heads of the type here given are to be met with on the east and west coasts of the Northern Island of New Zealand. Comparatively simple as they appear after the wonderful carvings on the great war canoes, yet an infinity of patient labour was required to shape the required figure from the solid piece of timber. The width of this specimen is 32 inches, and consequently the original log must have been at least of that diameter. To cut through at both ends a piece of timber of this size with stone tools would be great labour, even if aided by fire. This specimen is in my own collection, and is at present in the Museum of the Hawke's Bay Philosophical Institute at Napier. Its length is 5ft. It still preserves traces of the red war paint. It came from Wairoa, Hawke's Bay, and was probably made in that neighbourhood.

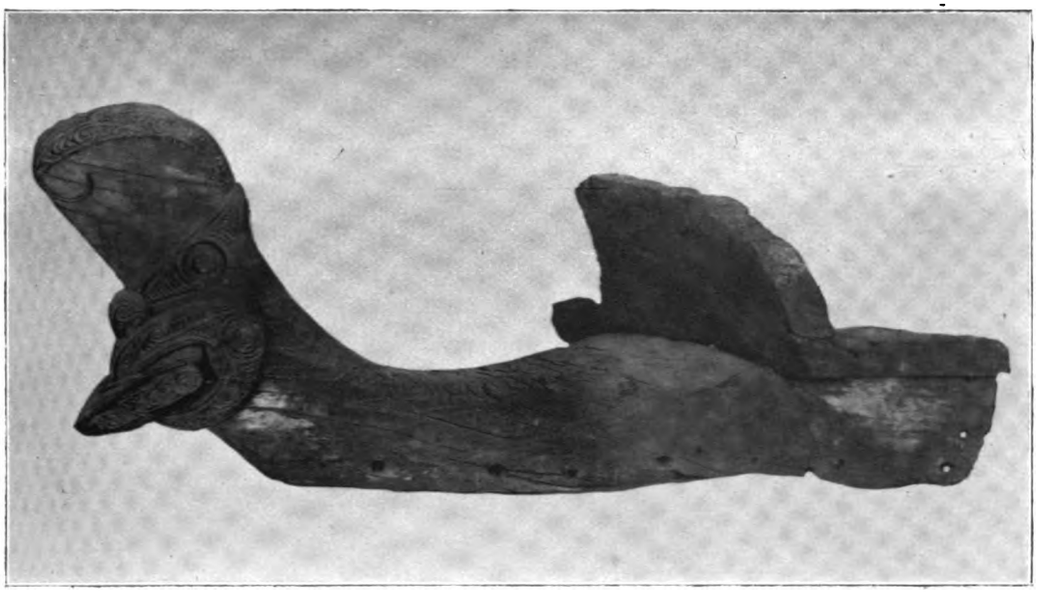
No. 12.

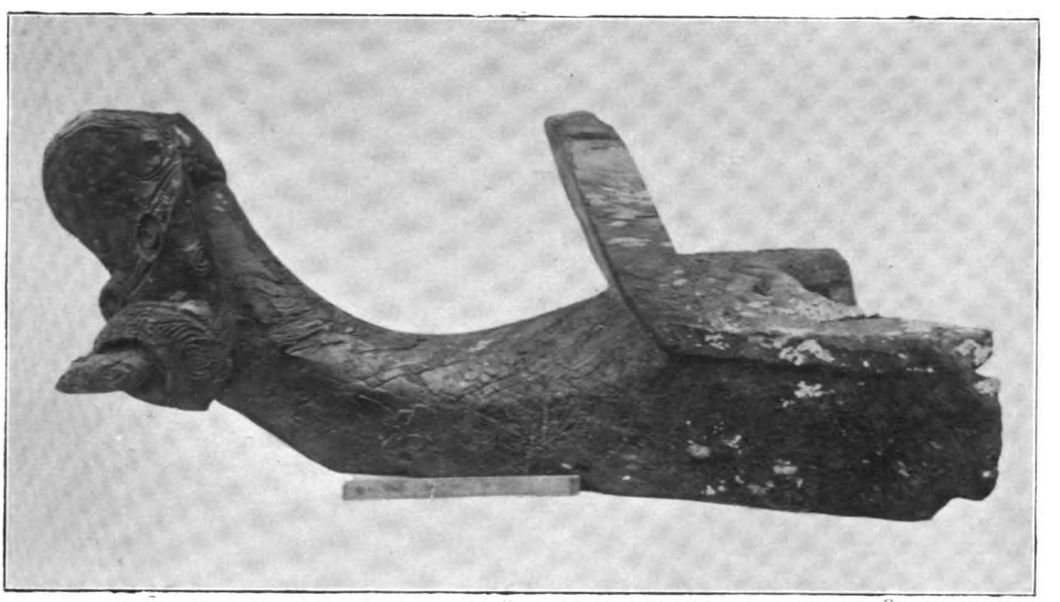
Figure-head of a Canoe.

A fine specimen now in the possession of the Rev. Herbert Williams at Gisborne, Poverty Bay. Though in good preservation, it has evidently not been in use for many a year, being partly covered with a grey encrusting lichen.

Length, 4ft. 9in. Width, 2ft. 7in.

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No. 13.

Stern Ornament (*tau-rapa*) **of a War Canoe.**

This *tau-rapa* was bought by Mr. James Mackay (then Assistant Native Secretary) in 1861 from the *Ngati-toa* tribe, who possessed the country on the coast of the Wellington province opposite to the Island of Kapiti. It is stated to have been part of the canoe *Kahutia-te-Rangi*, one of the fleet in which *Te Rauparaha* and his people waged war against the Natives of the South Island of New Zealand in 1831-32. Native tradition then stated that the carving was from 130 to 150 years old, and consequently executed with stone implements.

I do not know where this carving is at the present time. The figure is reproduced from a negative taken in Auckland some time ago.

No. 14.

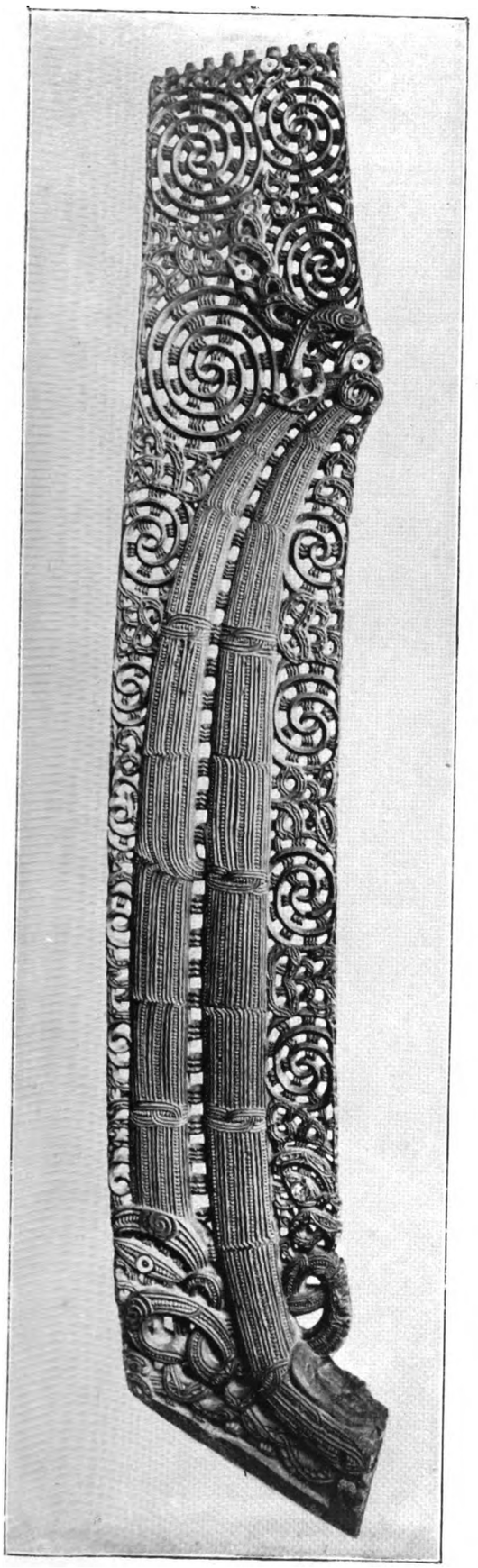
Stern Ornament (*tau-rapa*) **of a War Canoe.**

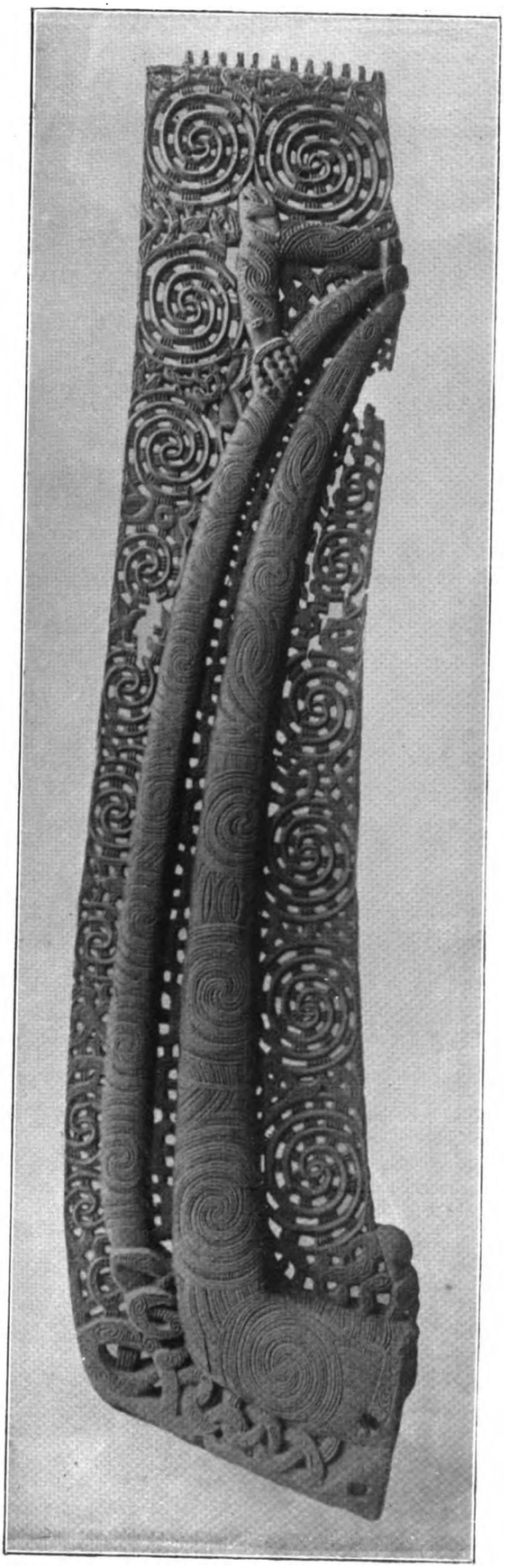
Canoe sterns, or *rapa*, are, apart from their size, objects worthy of close study, especially when, as in the case of the two examples here figured, the highest powers of the carver's art have been used to embellish and adorn them. Though so different in many respects from the last in the treatment of the minor ornamentation, the same kinds of design again occur. In this case I feel certain that the *rapa* belonged to the same canoe as did the *ihu* figured on Pl. 1, Fig. 2. By comparing the two an idea will be gained of how the same method of treatment was carried out in two carvings so unlike one another in general form. Unfortunately at the present time this identification of the corresponding parts can only be carried out in a few cases.

Height, 6ft.

Colonial Museum, Wellington.

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No. 15.

Stern Ornament (*tau-rapa*) of a War Canoe.

Carved stern-post of war canoe. It is hard to say which of the two is the more beautiful—the carving at the prow or the stern of a canoe. Whilst there is a practical uniformity in the pattern, or the essentials of the pattern, there is an endless amount of variation and elaboration in the details. Here we have a very typical example, not fully elaborated, but presenting the essentials of the design. The figure seated at the base, looking into the canoe, is occasionally reduced to a head only, as in fig. 17.

The examination of the three figures in this plate will show that, apart from the two ascending bars, the motive is the same as on the *tau-ihu*—a figure or face between two double spirals, repeated as often as may be necessary to fill the space.

Height, 5ft. 2in.

It is in the collection of Dr. T. M. Hocken, of Dunedin.

No. 16.

Stern Ornament (*tau-rapa*) of a War Canoe.

A very highly-finished specimen in the Museum of the University of Otago, Dunedin. This specimen, together with the *tau-ihu* at end of list of Illustrations, belonged to one individual canoe.

Height, 4ft. 3in.

No. 17.

Stern Ornament (*tau-rapa*) of a War Canoe.

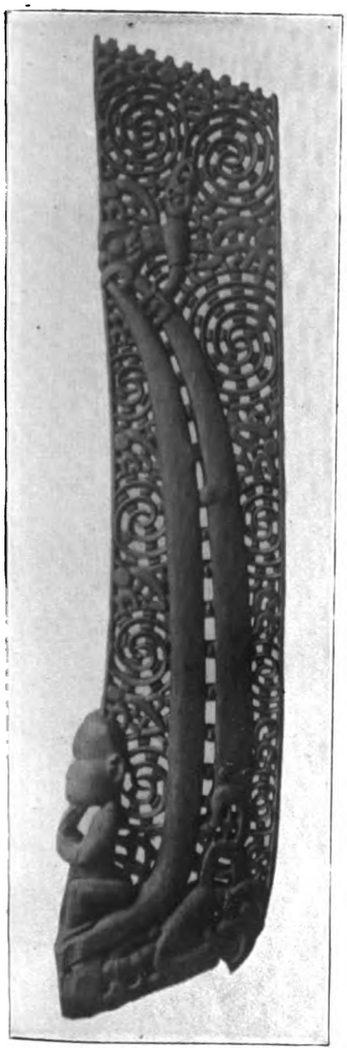
This beautiful, but unfinished, piece of carving is in the possession of a gentleman in Poverty Bay, in the North Island of New Zealand. It is a more modern piece of work than the last, but in pattern and style preserves the old traditions. It is not unusual to find, even in some of the oldest carvings, portions left unfinished. I have a canoe prow in which the whole of one side is finished, and the other side hardly started.

Height, 6ft. 6in.

There is a remarkable likeness between these tall canoe stern carvings and those on the Tahitian canoes of Cook's time, as may be seen by Webber's drawings to "Cook's Voyages."

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PLATE VIII.







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No. 18.

Baler (*tata*) of a War Canoe.

(a) A baler from Akuaku, Poverty Bay. A typical example of this form of canoe baler. The specimen is of considerable antiquity, and is one of a pair. They were of some repute, and were named. This one was called *Pororangi*, after the chieftainess of that name.

This is in my own collection at Dunedin.

No. 19.

Baler (*tata*) of a War Canoe.

(b) A unique specimen of curious appearance and great antiquity, having been found in what is known as Monck's Cave, at Sumner, near Christchurch, a prehistoric cave-dwelling of the Maoris.

It is very unusual to find the handle continued on into the bowl, or left in the solid; but I have seen some instances. It adds greatly to the strength of the article.

Length, 15in. Breadth, 8in.

Canterbury Museum, Christchurch.

No. 20.

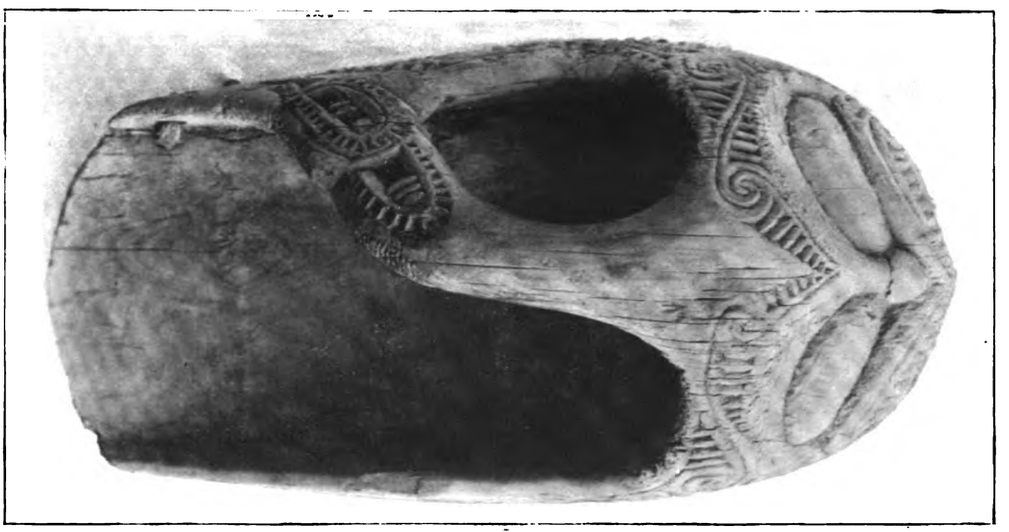
Baler (*tata*) of a War Canoe.

(c) A very graceful specimen showing much refinement in the contours and execution. It is in the Colonial Museum, Wellington.

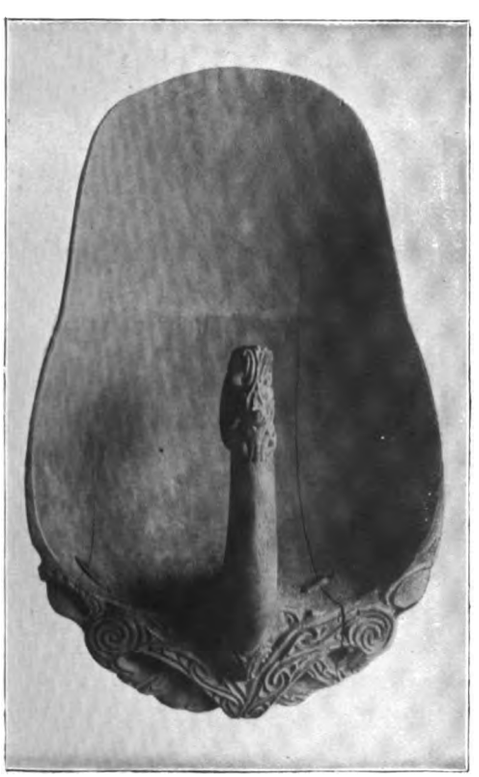
Length, 18in. Width, 12in.

There are several other forms of balers found in collections, but I am not able to figure them for want of space.

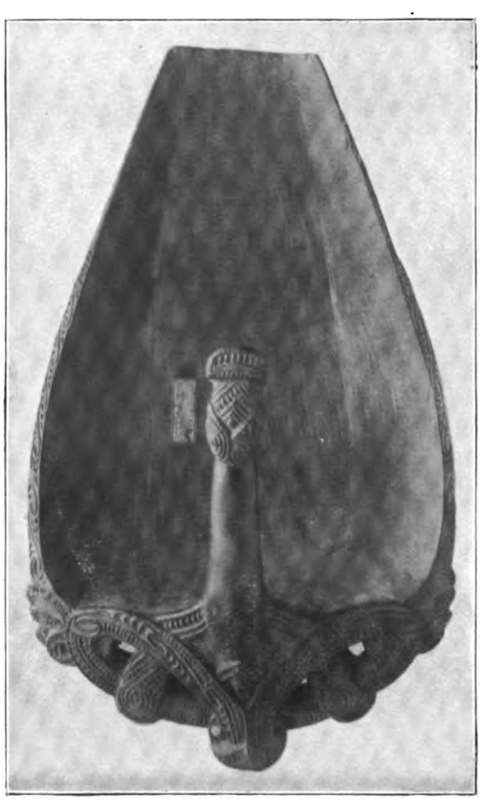
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b



a



c

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No. 21.

Figure-head (*tau-ihu*) of a War Canoe.

Represents the northern form of *tau-ihu*, with all the parts put together. It is not so highly finished as those pieces figured on Pl. V., but it evidently carries out the same idea in another way. The transverse portion is given as a tail-piece on page 24. The head is also given as a tail-piece on page 16. The base seen from above is shown at Fig. 24.

No. 22.

Figure-head of a War Canoe (seen from above).

A view of the *tau-ihu* is figured on page 68, looking from above.

No. 23.

Part of Figure-head of a War Canoe (seen from above). Auckland.

Is, as already mentioned, the base of the large northern figure-head (Fig. 22), as seen from above. In the groove in the centre, and also in the transverse groove, are seen the holes for the pegs connecting the various parts.

No. 24.

Figure-head of War Canoe (seen from above).

The view from above of a very large canoe-head or *tau-ihu*. This fine specimen is figured on page 25, and is a beautiful piece of work.

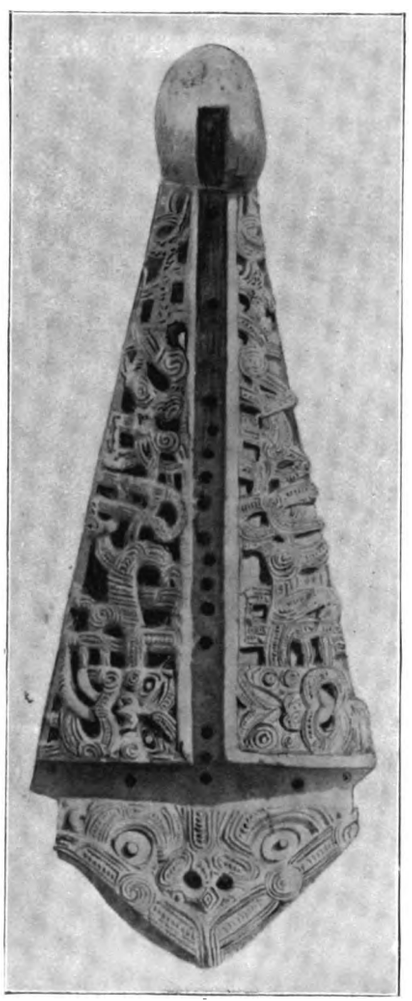
The total length is 6ft. 3in.

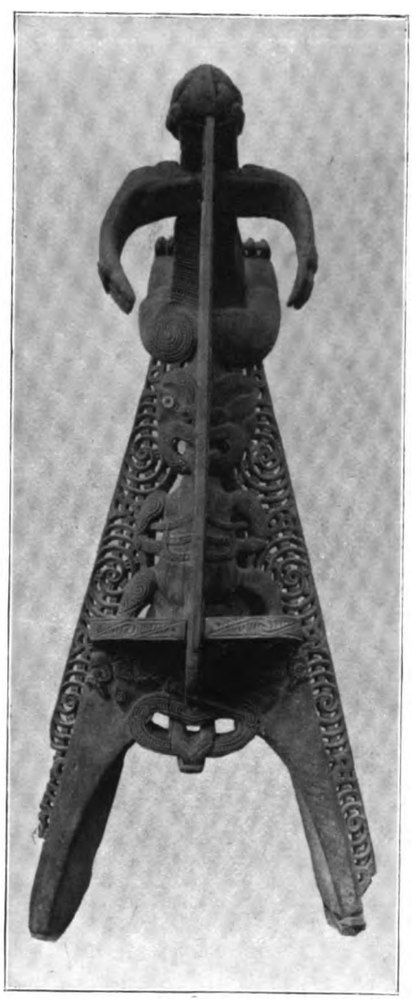
It is now in the Canterbury Museum, Christchurch.

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LIST OF ILLUSTRATIONS IN THE TEXT.

Double-page lithograph of diagrams of the parts of a Maori canoe and its fittings.

Carved head from the base of a canoe prow.
Original in the Museum of the University of Otago, Dunedin Page 16.

Figure-head (*pakurukuru*) of a small canoe. Taranaki.
In Canterbury Museum, Christchurch, New Zealand Page 17.

Transverse board of figure-head of a war canoe. Auckland Page 24.
(See also Plates V. and X.)

Figure-head (*tau-ihu*) of war canoe. Length, 6ft. 3in.
Canterbury Museum, Christchurch, New Zealand Page 25.

Fishing canoe of the present day.
Poverty Bay Page 28.

Part of a canoe carved and erected as a memorial to a deceased chief.
Formerly in a Native burial ground at Wanganui Page 38.

Fragment of a canoe-prow found on the beach at Lyttelton by one of the early settlers.
Canterbury Museum, Christchurch, New Zealand Page 41.

Huaki figure on the *tau-ihu* of a war canoe.
Colonial Museum, Wellington Page 42.

Figure-head (*tau-ihu*) of a war canoe.
Otago University Museum, Dunedin Page 68.
(See Plate VIII., Fig. 16, for *tau-rapa* belonging to this prow).

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LIST OF SPECIMENS FIGURED IN THE PLATES.

Plate I., Fig. 1.—Figure-head *(tau-ihu)* of war canoe.
Canterbury Museum, Christchurch, New Zealand.

Fig. 2.—Figure-head *(tau ihu)* of war canoe.
Colonial Museum.

Plate II., Fig. 3.—Figure-head *(tau-ihu)* of war canoe.
Museum of Hawke's Bay Philosophical Institute.

Fig. 4.—Figure-head *(tau-ihu)* of war canoe.
Colonial Museum, Wellington.

Plate III., Fig. 5.—Figure-head *(tau-ihu)* of war canoe.
Colonial Museum, Wellington.

Fig. 6.—Figure-head *(tau-ihu)*.
Canterbury Museum, Christchurch.

Plate IV., Fig. 7.—*Tau-ihu* and *tau-rapa* for a model war canoe.
Colonial Museum, Wellington.

Fig. 8.—Figure-head *(tau-ihu)* of war canoe.
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Auckland.

Fig. 10.—Part of the figure-head of a war canoe.
Auckland.

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Fig. 12.—Figure-head of a canoe.
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Fig. 14.—Stern ornament *(tau-rapa)* of war canoe.
Colonial Museum, Wellington.

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Plate VIII., Fig. 15.—Stern ornament (*tau-rapa*) of war canoe.
In collection of Dr. T. M. Hocken, Dunedin.

Fig. 16.—Stern ornament (*tau-rapa*) of war canoe.
Otago University Museum, Dunedin.

Fig. 17.—Stern ornament (*tau-rapa*).
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Plate IX., Fig. 18.—Baler (*tata*) of war canoe.
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Fig. 20.—Baler (*tata*) of war canoe.
Colonial Museum, Wellington.

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Otago University Museum, Dunedin.

Fig. 23.—Base of figure-head of war canoe, seen from above.
Auckland.

Fig. 24.—Figure-head of war canoe, seen from above.
Canterbury Museum, Christchurch.

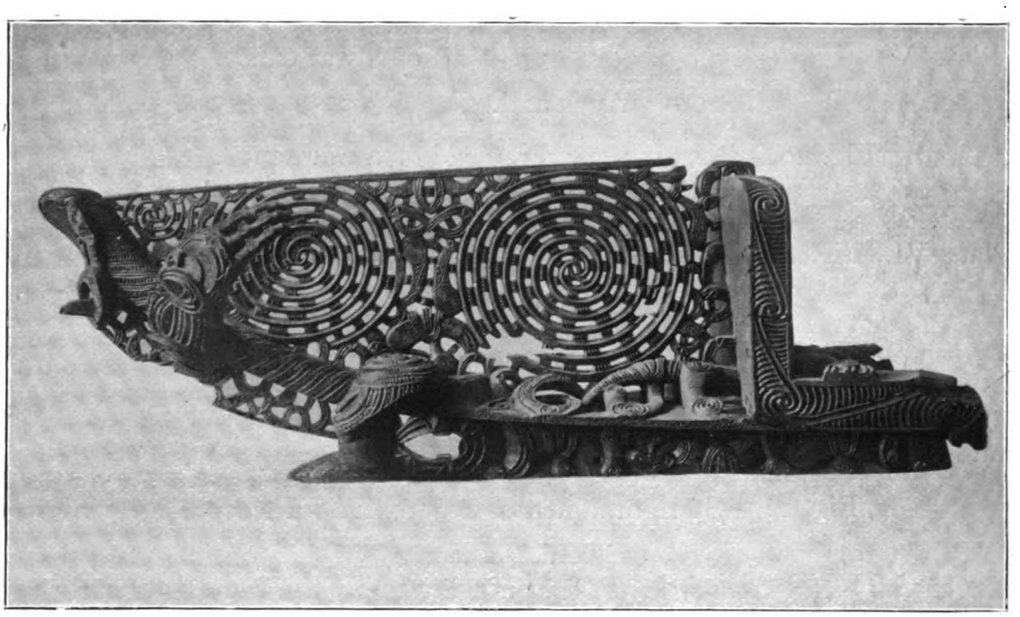


Figure-head (*tau-ihu*) **of a War Canoe.**
Otago University Museum Dunedin.

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ILLUSTRATIONS OF MAORI ART.

PART II.

THE HABITATIONS OF THE MAORIS.

LIST OF WORDS RELATING TO HOUSES AND PAS.

MAORI RAFTER PATTERNS, WITH DESCRIPTIVE NOTES.

DIAGRAMS OF THE CONSTRUCTION OF A MAORI HOUSE, PLANS AND SECTIONS OF FORTIFIED PAS, AND DESCRIPTION OF THE DIAGRAMS.

PLATES AND DESCRIPTIONS.

LIST OF ILLUSTRATIONS IN THE TEXT.

LIST OF ILLUSTRATIONS FIGURED IN THE PLATES.

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REGISTRAR OF THE UNIVERSITY OF OTAGO.

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1897.

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Korupe, **or Lintel of a Doorway.**

THE HABITATIONS

OF

THE NEW ZEALANDERS.

THE perishable nature of the building materials used by the Maoris, and the operation of the social customs relating to the property of deceased chiefs, have rendered it a difficult matter, at the present time, to obtain from personal observation a faithful record of the various buildings, which, in times now past, went to make up the village cluster or *kainga*—unfortified—or the fortified *pa*, or stronghold. Before endeavouring to present, in a collected form, the evidence still available of the different kinds of houses and buildings, I should at once make it clear that, whilst there was a general similarity, many forms were undoubtedly local, some the result of individual caprice, or adapted to some special circumstance. It is also very unlikely that any *pa* ever contained at any one time all the recorded varieties of buildings.

The earliest account that we have of the appearance of a Maori village in its normal condition is, fortunately, to be found in "Cook's Voyages."* He says, speaking of their villages in general:—"Their houses are the most inartificially made of anything among them, being scarcely equal, excepting in size, to an English dog-kennel. They are seldom more than 18 to 20 feet long, 8 to 10 feet broad, and 5 to 6 feet high from the ground to the pole which runs from one end

* Cook (Hawkesworth), Vol. iii., p. 457, 1st ed., 1773.

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to the other, and forms the ridge. The framing is of wood, generally slender sticks, and both walls and roof consist of dried grass and hay, which, it must be confessed, is very tightly put together; and some are also lined with the bark of trees, so that in cold weather they must afford a comfortable retreat. The roof is sloping, like those of our barns, and the door is at one end, just high enough to admit a man creeping on his hands and knees; near the door is a square hole, which serves the double office of window* and chimney—for the fireplace is at that end, nearly in the middle below the two sides; in some conspicuous part, and generally near the door, a plank is fixed, covered with carving after their manner—this they value as we do a picture, and in their estimation it is not an inferior ornament; the sidewalls and roof project about two feet beyond the walls at each end, so as to form a porch, in which there are benches for the accommodation of the family. That part of the floor which is allotted for the fireplace is enclosed in a hollow square by partitions, either of wood or stone, and in the middle a fire is kindled. The floor along the inside of the walls is thickly covered with straw, and on this the family sleep.† Some of the better sort, whose families are large, have three or four houses, enclosed with a courtyard, the walls of which are constructed of poles and hay, and are about 12 or 13 feet high. We saw at Tolaga the frame of a house much superior to these; it was 30 feet in length, 15 feet in breadth, 12 feet in height, and adorned with carved planks."

The material used to cover the framework varied very much with the locality, and a large number of sedges, grasses, reeds, and leaves were used. Sheets of bark from the Totara pine *(Podocarpus Totara)*, and the leaves of the Nikau palm *(Areca sapida)*, made excellent coverings for temporary shelters, and were also used in more permanent work.

The remarkably small doorway of the ordinary house is noted by all the early authorities, and they also agree on the height in the inside of the house, from floor to ridge pole, being only five or six feet. The *mahau*, or deep porch at the end of the house, usually faced the sun, as it was an ill omen to face the south (such a house being called *whare-kotore*); it served for many purposes, especially for feeding in, as no cooked food could be taken into a dwelling house or eaten there.

* Crozet mentions "the small window, about 2 feet square, furnished with a rush trellis."—"Nouveau Voyage à la Mer Sud" (H. Ling Roth) In several Maori legends instances occur of a kind of skylight or window *(pihanga)* in the roof, as in the story of Monoa entering the Wharekura. Taylor says the opening *(pihanga)* had a small roof over it to keep out the rain (Taylor, Te Ika, 2nd ed., p. 179).

† Crozet says—"They had a square of boards well joined together, about 6 feet long by 2 feet broad; on these planks are laid 7 or 8 inches of grass or fern, well dried, and upon which they sleep."

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Crozet, in 1772, and Earle,* in 1827, found the ordinary houses exactly corresponding to Cook's description. The sketches, made by Angas and others, show that the ordinary whares were mostly small, about seven feet long by five or six broad; and Mr. Colenso says, their common houses, though plain, were often very strongly made; sometimes, however, their walls were not more than two feet high, with a prodigious roof. In some districts a custom obtained of sinking the floor† a foot or so below the level of the ground, and heaping the earth up against the sides of the house, thus avoiding to a great extent the variations of external heat and cold. When a house of this kind was destroyed by fire or perished from decay, the pit remained, and in all parts of the North Island these hollows attest the presence at some past time of native dwellings, or store pits. In the southern part of the South Island the practice of excavating the house area was not followed, although the climatic conditions would appear to demand such protection more than in the north. Possibly, however, the practice may have been introduced into the North Island at a late date, or originated there since the Maori occupation of the North, as house and store pits are also found in the north of the South Island.

Taking the small simple dwelling house or hut as the unit or starting point of a village, we find that each family group surrounded its house or houses with a screen or fence of posts inserted into the ground close to each other, and made into a secure barrier by cross rails firmly lashed with *ake* or other bush creepers *(kareao*, &c.) Several of these groups related by family ties or a common interest combining together, would erect a stouter and stronger fence round the whole, leaving sufficient space somewhere in the enclosure, generally in front of the large assembly houses, as the *marae* or courtyard, where dances or meetings could be held, or speeches made. In large *pas* the great fence *(pekerangi)* was composed of large posts, sometimes entire trees; at short intervals in the fence a larger post than usual *(tukumaru)* was placed, and the top carved into the representation of a defiant warrior *(kahia)*, armed with some native weapon.‡ Most of the smaller posts were finished off at the top by a deep notch all round a foot or so from the end, giving a resemblance to a head stuck on a post. At the building of an important *pa* it was usual to bury a slave under each of the main posts of the fence.

Colenso, "Transactions New Zealand Institute," Vol. i., 2nd ed., p. 349.

* Earle, Narrative, &c., p. 56.

† Colenso, "Transactions New Zealand Institute," Vol. xxvii., p. 362

‡ A carved post with a figure or *tiki* from the *Otakanini Pa Kaipara* is in the Auckland Museum, and the history of the *pa* is given in the "Transactions New Zealand Institute," Vol. xxviii., p. 41.

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Close to Opotiki eleven skeletons were recently found, each buried under the decayed post of a *pa*. Space would be required for store houses for food and for weapons, paddles, &c., for cook houses *(kauta)*, and sheds for various purposes, and covered pits *(rua)* for storing root crops. A striking picture of a Maori *pa* of the olden times in the Whanganui district, North Island, during peace, was published as a lithograph from a painting by Gilfillan, and in most of the details is excellent. Unfortunately the wave of European influence is just reaching the village, and sailors' caps and blankets are to be seen, together with potatoes and that useful animal—often called, with much reason, one of the great civilizers of the Pacific—the pig. The situation of the *pa*, or village, would naturally be determined by the character of the neighbourhood as a food-providing area. By the mouth of streams or rivers, by the swamps teeming with eels and birds, or on headlands or points running out into the sea, the settlements grew up of a more or less permanent nature. Next to these practical considerations came the esthetic. "They generally sought a clear open site for their villages, so as to command a good view; a fine open prospect from a villiage being loudly praised by strangers, while a cramped or bad one was denounced. They did all they could to keep their villages both clean and tidy. Each village had its common privy, generally in some secluded spot. Their houses were often neatly kept, all their little articles hung up or stowed away in baskets in their proper places. Their fishing residences, or huts near their cultivations, and forest huts where they sometimes dwelt (for a chief had generally five or six residences), were usually beautifully placed and snugly ensconced under shady trees, and by the side of a murmuring brook; they rarely ever wantonly cut down evergreen shrubs or old shady trees growing near them for the sake of their wood for timber or firing, choosing rather to fetch the same from a long distance." *

The houses of the common people were frequently scattered about in the neighbourhood of their cultivations, within easy reach of the great tribal *pa*, and these, if destroyed by a marauding enemy, were easily replaced. The great meeting houses and the residences of chiefs, with the series of houses for various purposes, were usually within the great fences.

It is worthy of notice that in regard to sanitary regulations, Cook found that most Maori *pas* were better regulated than many of the large cities of Europe at

* Colenso, "Transactions New Zealand Institute," Vol. i., p. 375.

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that date—every little cluster of houses being furnished with a privy (*paepae*), the offal of their food was piled up in regular dunghills.

There were no regular streets, but there were irregular passages of communication between the various clusters of houses, each enclosure having small apertures for ingress and egress, and usually, in modern times, a stile of one or two steps either of wood or stone, so as to exclude pigs. Sometimes these stiles, even those connecting the plantations of *kumara* and potatoes (or *taro*) were carved with grotesque figures.* The main entrance (*waha-roa*) to the *pa* through the great fence was often elaborately carved.† Mr. Colenso thus describes the gateway of a *pa* at Onepoto, a village close to Lake Waikare-moana—"The gateway was embellished with a pair of huge and highly-carved human figures, besmeared with shining red pigment, armed with spears, and grinning defiance to all-comers. These were not only seen to advantage through being elevated above the horizon, but their eyes (or rather sockets), instead of being set with glittering *haliotis* shell, according to the usual native custom, were left open, so that the light of the sky streamed through them; and this was yet more particularly manifested owing to the proper inclination given to the figures, looking down, as it were, on all looking up at the narrow, steep ascent into the well-fenced village."‡

Many of the great Maori *pas* must have contained one or two thousand people. The natives are unanimous in affirming that they were much more numerous in former times than they were at the time of the arrival of the colonists. The old hill forts are many of them so large that an amount of labour must have been expended in trenching, terracing, and fencing them—the want of iron tools increasing the difficulty a hundredfold—that must have required a vastly greater population to accomplish. These forts were of such an extent that ten times the number of men living in the district in modern times must have been required to defend them, even under the old conditions of warfare. And yet, says Manning, "when we remember that in those days of constant war—being the two centuries preceding the arrival of the Europeans—the natives always, as a rule, slept in their hill forts with closed gates, bridges over trenches removed, and ladders of terraces drawn up, we must come to the conclusion that the inhabitants of the fort, though so numerous, were merely the population of the country in the close vicinity."‖

* Angas, "Savage Life and Scenes," Vol. ii., p. 129.
† See a sketch of a gateway to a *pa* in Major-Gen. Robley's "Moko," p. 89, fig. 99.
‡ Colenso, "Transactions New Zealand Institute," 1894, Vol. xxvii., p. 360.
‖ Judge Manning, "Old New Zealand," p. 105.

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The warlike nature of the Maori, however, looked upon the piping times of peace only as a convenient time to prepare for war, and the great war *pa* or citadel of a tribe was the most important feature in their daily life, and had to be kept in order and readiness for instant use. This feeling was a universal one, and we find that Angas says, "near the path leading from Pukepoto I observed a minature *pa* constructed by the boys, who amuse themselves by building tiny fortifications, and emulate the courage and skill of their sires in the sport of besieging and defending them. The mounds were made of heaps of earth, and the fencework constructed of upright sticks, displaying the characteristic ingenuity of the Maori children. Their elders also, when fighting their battles over again to an appreciative audience, would frequently construct a rough model on the ground with pieces of fern stalk stuck in to illustrate their story, and show "how fields were won."*

Every advantage was taken of the natural features of the country, and every isolated hill or promontory in the North Island, or any easily fortified situation, has at one time or another been the site of a war *pa* or citadel. These sites have as many historical associations as any castled height in Europe, and it is much to be regretted that all the palisades and carved posts, with their defiant figures, have decayed, leaving only the scarped sides and ditches and banks as reminders to the present age of the glories of the past. As the British and Roman camps on the hills of Britain call up the visions of a long passed stormy period of war and strife, so in future years will the ditches and banks of the Maori forts testify to the energy and military genius of the great Maori race. From the sketches and plans given it will be seen that the system of defences offered an effectual resistance to the assault of an enemy unprovided with steel weapons or firearms.

The introduction of firearms struck a fatal blow at the whole system of Maori tactics. With great skill, however, the leading chiefs of the day modified their defences, and many new *pas* were built that commanded the respect and admiration of European officers, and trained forces of the British army found it no easy matter to dislodge a brave and war-loving foe from his rifle-pits and entrenchments. The defensive works at Te Arie *pa* at the Waitara were found to be very

* Angas. See "Life and Scenes," Vol ii., p. 96.

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formidable, ditches 15 feet deep, and this novelty in Maori fortification—there was a strong parapet built of earth mixed with fern about 16 feet thick, covered by a line of rifle pits or a covered way, about 40 yards in front of the line of stockade; so that had the guns been used, the Maori defenders, being in front instead of the rear of their stockade, would have been entirely under cover; the shot and shell which would have been naturally thrown into the stockade, would have been quite ineffectual, and the garrison would have been able to have received any attacking column after the palisades had been apparently breached.* The earthworks at Rangiriri were also very effective, the ditch being 12 feet wide, and the parapet 18 feet high. It is said that in purely native warfare it was not unusual for an an enemy to approach the walls by a sap or underground approach.† Colonel Wynyard made a model of one of these *pas* adapted to the new conditions—the celebrated *pa* at Ruapekapeka, constructed by Kawiti in 1845. A similar model was constructed by Capt. Balneavis of the 58th Regiment, and sent over to the Great Exhibition of 1851. In some cases, as in two old *pas* near New Plymouth, one at Te Koru and another at Stony River, the banks or walls of the *pa* under the palisading were compactly built of stone, mostly large boulders from the river beds. The Waiohua or Ngaiwi, near Auckland, are also said to have had stone walled *pas*.

Many ingenious devices were used in war time. Shortland mentions an instance of the besiegers erecting a stout fence *(karapoti)* as a blockade entirely round the besieged *pa*, effectually preventing the escape of the victims. Another party constructed a huge wickerwork shield *(kahupapa)* large enough to protect twenty men, who, thus covered, pushed it up to the fence of the *pa*, after the manner of the ancients. Another ingenious device was spreading sea shells over the paths leading to the *pa*, so that the sound of the shells breaking under the feet of the enemy might alarm the inmates in the case of a night attack. In the instance quoted, however,‡ the enemy outwitted the defenders by spreading their dogskin mats over the shells, and took the *pa* by surprise. During the defence of Te Namo *pa* by the Taranaki and Wi Kingi, the Waikatos, during the night, constructed three *taumaihis* (towers of earth or wood) to enable them to fire into the

* Major-Gen. Sir J. Alexander, "Bush Fighting," &c., 1873, p. 237.
† Thomson's "New Zealand," Vol. i., p. 133.
For an account of a great siege see the Fall of Kaiapohia in Shortland's "Traditions of the New Zealanders," p. 256; and Rev. J. W. Stack in "Kaiapohia: The Story of a Siege," 1893.
‡ Judge Fenton, "Important Judgments Native Lands' Court," 1866-79, p. 63.

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pa, and parties were told off to steal up under cover of the darkness and undermine the parapet. This was also done at the siege of Moturoa.*

A lithograph of the *pas* of two parties of Maoris at Waitangi in the Chatham Island, forming part of a series drawn by Major Heaphy in 1839, was published by the New Zealand Government, showing fighting towers *(taumaihi)* built of wood to a great height.

Cook remarks that "south of Poverty Bay he saw no *hippahs*, but upon the hillsides were stages of great height, furnished with stones and darts."† The whole of the country from Poverty Bay to Cape Kidnappers is covered with the remains of fortified *pas*, many of which appear of great antiquity, so that Cook's statement probably applies to some portion of the district then recently devastated or temporarily uninhabited.

Deserted villages seem to have been frequently seen by Cook, especially in Queen Charlotte Sound. After a defeat the villages forsaken by the conquered were rarely occupied by the victors.

Cook visited a great war *pa* at Mercury Bay, and he thus describes it—"The *pa* was enclosed with a fence about 10 feet high, consisting of strong poles bound together with withes; the weak side next to the land is also defended by a double ditch, the innermost of which has a bank and additional palisade; the inner palisades are upon the bank next the town, but at such a distance from the top of the bank as to leave room for the men to walk and use their arms, between them and the inner ditch; the outermost palisades are between the two ditches, and driven obliquely into the ground, so that their upper ends incline over the inner ditch; the depth of the ditch from the bottom to the crown of the bank is 24 feet.

"Close within the innermost palisades is a stage 20 feet high, 40 feet long, and 6 feet broad; it is supported by strong posts, and is intended for a station for the defenders, from which they may annoy the assailants by darts and stones, heaps of which lay ready for use.‡ Another stage of the same kind commands the steep avenue from the track, and stands also within the palisading. On the side of the hill there are some little outworks and huts, not intended as advanced posts, but as

* Judge Gudgeon, "History and Traditions of the Maoris," p. 68.
† "Cook's Voyages" (Hawkesworth), Vol. iii., p. 469.
‡ See also "Crozet's Voyages" (H. Ling Roth), p 32.

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the habitations of people, who, for want of room, could not be accommodated within the works, but who were, notwithstanding, desirous of placing themselves under their protection. The palisades, as had been observed already, ran round the whole brow of the hill, as well towards the sea as towards the land, but the ground within having originally been a mount, they have reduced it, not to one level, but to several, rising in stages one above the other like an amphitheatre, each of which is enclosed in a separate palisade; they communicate with each other by narrow lanes which might easily be stopped up, so that, if an enemy should force the outward palisades, he would have others to carry before the place could be wholly reduced.

"The only entrance is by a narrow passage about 12 feet long, communicating with the steep ascent from the beach; it passes under one of the fighting stages [Cook in another place calls this stage *porava=porawa*], and though we saw nothing like a door or gateway, it may be easily barricaded. The openings in the fences were not opposite each other, but some distance to the right or left. There were quantities of fern root and dried fish in the store house, and water was stored in calabashes or bowls, to say nothing of the *kumaras*, *taros*, &c."*

In every group of houses of any importance there was one, a *whare-whakairo* or carved house, which served in the first place as a council chamber and as a guest house, and was also often regarded as a memorial of some great event in the history of the tribe, such as the birth of an heir to the principal chief, or of a special assembly of the tribes to discuss questions of war or peace. On the arrival of each of the famous canoes of the migration from Hawaiki, a *whare maire* or *whare kura* was built, in which was taught the religion, history, poetry, and genealogies of the tribe, by the priest whose special function it was to preserve this lore. The names of nearly all, and the positions of many of these celebrated houses are known.† It was on these ceremonial houses, and on the chief's store houses, that most of the best art workmanship was bestowed, and it is therefore necessary to give some detailed description of the mode of construction.‡ This has been rendered a comparatively easy matter by the publication of an article by the Rev. Herbert Williams, of Poverty Bay, on a Maori house§ as constructed by the Ngati

* "Cook's Voyage" (Hawkesworth), Vol. ii., p. 343.
† Journal Pol. Soc. Vol. v., p. 154.
‡ See an interesting description of a house built by the Maoris for Mr. Colenso in 1844 at Waitangi, Hawkes Bay. "Trans. N.Z. Institute," Vol. xiv., p. 50.
§ Journal Pol. Soc., Vol. v., p. 145, No. 19.

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Porou tribe, who still occupy the East Cape district, and who have at all times been noted for their skill in building and carving.

A *whare* consisted of a framework of timber, carefully notched, and lashed together with flax, the wall spaces being filled in with screens made chiefly of *kakaho*, the reeds of the *toetoe* plant *(Arundo conspicua)*, the whole being covered with bundles of *raupo (Typha angustifolia)*, bound on with strips of flax *(Phormium tenax)*. For months, and perhaps years, the materials would be sought for, collected, and prepared. Suitable timbers would be slowly and laboriously dressed down to the required size by the application of fire and stone tools. The timber most desired for building purposes was that which had been brought down by floods and then buried for years in the bed of the river, and in course of time had lost its sap wood and become well seasoned. To drag these logs from their watery bed, and to get together the numerous large timbers required, was a great undertaking. Numbers and determination overcame all difficulties, as was exemplified in the case of the building of the Mission Church at Otaki, where the enormous ridge pole—a solid piece of totara 86 feet long, was dragged 12 miles, and finally elevated on three pillars, 40 feet high, by the manual labour of the natives.

The *kakaho*, or reeds, the flower stalks of the Arundo *(toetoe)*, had to be cut at the proper season, if possible from a forest locality, and carefully dried. Huge stores of the leaves of the Typha or bulrush (*Raupo*) would be required for the sides and the roof of the house, together with quantities of the invaluable Phormium or *Muka*, the so-called New Zealand flax. In the northern districts, the wiry creeping fern (*Lygodium scandens*) *Mange-mange* was utilized to fasten down the outside layers of thatch on the roof; in other districts, plaited ropes of flax, or a light lattice of thin *manuka* rods. If suitable timber could not otherwise be obtained, it was necessary to fell some huge Totara or other pine, and to do this, fire and the stone axes (*toki*) had to be used. The branches were removed, and the trunk then split with wedges made of hard wood.

The materials having been procured, and the position of the house decided on, the appropriate ceremonies were performed by the priest, and the proper *karakias* recited. Any levelling that was required was then done, so as to have a hard level earthen floor. The shape of all houses was practically a parallelogram of varying

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proportions; in some of the larger houses the length was as much as 60 feet or 10 *maro* (fathom). Anything over 25 feet would, however, be considered a large *whare*. The proportion of the width to the length varied according to the taste of the *tohunga* who superintended the building.

On the East Coast, measurement was by the *maro*, or fathom of 6 feet, measured by the extended arms; on the West Coast, by *takoto*, that is, the length from the foot to the hand extended beyond the head as the measurer lay at full length on the ground.

The Rev. Herbert Williams gives the following account of the details of the construction of a Maori house, which I am permitted to reproduce from the "Journal of the Polynesian Society":—

"The lines for the two ends, known as *roro*, the front, and *tuarongo*, the back, were first laid down, and the building squared by measuring the diagonals, *hauroki*. Finally, for some occult reason, the corner on the right-hand side of the *roro*, looking into the house, was displaced a very slight distance towards the *tuarongo*, or back. The sides of the open porch, or *whakamahau*, were not a continuation of the sides of the house, but were on parallel lines a few inches within the others.

"The next business was the erection of the main posts, or *pou-tahu*, for the support of the ridge-pole, *tahu* or *tahuhu*. These were trunks of trees, either whole or split in half, with the inner convex faces carved or more often painted, and stood in the middle of the *roro* and *tuarongo* respectively; that at the *roro* being perceptibly higher than the other to allow the smoke to escape at the front of the house. Some ingenuity was displayed in erecting these posts. The hole was dug, and the post brought up to it and laid face downwards inside the *whare;* a heavy slab of wood, the *tuauau*, was placed in the hole against the foot of the post; the head of the post was first raised by lifting, and then by hauling on two heavy ropes, the advantage made in hauling being secured by a pair of shears, *tokorangi*, placed under the post, and worked gradually forward towards the hole; a third rope fastened to the head of the post served to guide it as it rose; when the post was perpendicular the *tuauau* was removed, the hole filled in, and the earth rammed down. In some houses the parts of the main posts within the ground were

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surrounded with slabs cut from the fibrous trunk of the large tree-ferns (*ponga*), which, being almost imperishable, preserved the posts; such slabs were called *turihunga*.

"The *tahu*, or ridge-pole, was in one piece, and about 10 feet longer than the *whare* proper. Its section was an obtuse isosceles triangle, the apex uppermost. In a large house it might be two feet or more in width, and must have been of considerable weight. The difficulty of raising it to its position on the *pou-ahu* was overcome by the use of *tokorangi* at each end, a scaffolding (*rangitapu*) being erected to support it in different positions, until it finally rested on the flat tops of the *pou-tahu*, the rear end resting on its post, while the excess mentioned above projected in front of the *whare*. This extra 10 feet of the *tahu* was carved to represent a conventional human figure (*pane*), while the part between the posts was painted with a scroll pattern (*kowhai*). The *tahu* was retained in its position by stout pins driven through either side into the posts, also by lashing to sunk eyes.

"During the work of building, the *tahu* was supported between the posts by one or two temporary supports (*tokotoko*); these, when the building was completed, were replaced by the *pou-tokomanawa*, a post much lighter than the *pou-tahu*, generally squared through the greater part of the length, with the lower part carved to represent a human figure, the result in many cases being very realistic. In some *whares* there may now be seen a light pole supporting the projecting end of the *tahu*, but this formed no part of a regulation Maori *whare*.

"The framework of the sides, *pakitara*, consisted of upright slabs of wood set in the ground. These slabs, *poupou*, were from one to three feet wide, from three to nine inches thick, and of such a height as to make the pitch of the roof about 30 degrees. Of course, as the *pou-tahu* were not of the same height the *poupou* had to be graduated accordingly. In ordinary houses the height of the *poupou* above ground was somewhat under six feet, but in special cases has been made as much as 13 feet. The *poupou* were flat or slightly convex on the inner face, which was sometimes elaborately carved with conventionalized figures of ancestors, sometimes painted, and sometimes slightly relieved by notches along the edges. The edges of each *poupou* were rebated from behind; and at the top there was a semicircular depression, the *rua-whetu*, to receive the end of the rafter; in small houses this

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depression was about half the width of the *poupou*. When in position the *poupou* leaned slightly inwards, and were each buttressed behind with a *hirinaki*, a rough piece of split timber set in the ground, and lashed to eyes near the upper end of the *poupou*. The *poupou* were, of course, set opposite one another at even distances, starting from the corners by the *tuarongo*. The four *poupou* at the corners of the house were *tapu*. The intervals were, as a rule, a little wider than the *poupou*, and were invariably of an odd number inside the *whare*, and an odd number also—generally three—in the *whakamahau*. Not infrequently the *poupou* nearest the front wall was split down the middle with its corresponding rafter, half being inside the house and half in the porch, thus making in all an odd number of *poupou* on each side of the house. The upper ends of the *poupou* were secured to a batten, *kaho-paetara*, placed behind the *poupou* and lashed to notches or holes in the corners of each. The *kaho-patu* were respectively contiguous to the *tahu* and *kaho-paetara*.

"The framework of the *tuarongo* consisted of uprights, *epa*, set in the ground similarly to the *poupou*, except that they were set vertically. There were, of course, the same number on either side of the *pou-tahu*, generally three; in the case of a large *whare* as many as five. The height was fixed by the *heke-tipi*, a board placed on its edge, and extending from the top of the *pou-tahu* to the top of the *poupou*; each *epa* was lashed to the lower edge of this board.

"The *roro* was similar to the *tuarongo*, but with a frame for the door, *tatau*, on the right of the *pou-tahu*, looking outwards, and one for the window, *matapihi* or *pihanga*, on the left; the *epa* being cut away to leave room for these frames.

"A skirting-board, *papaka*, was formed by slabs placed between the *poupou*. These slabs were rebated from the front at the ends to come flush with the faces of the *poupou*, and from the back along the upper edge to correspond with the rebate on the sides of the *poupou*. Similar boards were placed between the *epa* of the two ends of the *whare*.

"The door, *tatau*, was rarely more than two feet wide and four feet high, and consisted of a slab of wood about two inches thick. It was opened by sliding the slab from the *pou-tahu* into a recess built in the wall. When the *whare* was closed

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from without, the cord holding the door was fastened in a knot, *ruru aho tuwhere*. Many owners had their special knots, which were highly complicated, to serve as burglar detectors. When closed from the inside the door was secured by a peg, and rattling was prevented by a wedge.

"The door-frame consisted of the *paepae*, or threshold—a piece of timber in length rather more than twice the width of the door, and squared, about 12 inches by 12 inches, having a groove, *toanga*, on its upper face to carry the door. Upon this stood the jambs, *whakawai* (roughly morticed to the sill and *taupoki*), which projected front and back to form a moulding; the two *whakawai* were flanged, the front edge being generally ornamented with carving. The left-hand jamb (looking outwards) stood close against the *pou-tahu*, the right-hand one was in two pieces, which stood on either side of the groove in the *paepae*. Over the *whakawai* lay a horizontal slab, the *tuapoki*, while the front of the doorway was finished off by a carved slab, the *korupe*, or *kororupe*, which rested on the carved edges of the *whakawai*. The *korupe* was not put in its place until the spaces in the walls had been filled in with *raupo*. The recess into which the door slid was lined with light horizontal battens, to prevent the door injuring the packing of the walls. The arrangements for the window, which was about two feet by two feet, were in all respects similar to those for the door; except that of course the window slid to the left. The sill was flanged on the outside similarly to the jambs. The usual height from the ground was such that a man sitting could barely see out.

"After the *poupou* had been allowed to stand in the ground some time so as to get well set, the rafters, *heke*, were put into position. These were flat on the upper, and rounded on the under face. They were not, as a rule, straight, but curved slightly upwards throughout their whole length, or curved at either or both ends, and straight through the remainder of the length. The under side was frequently ornamented with a painted scroll pattern. The lower end of the rafter was cut into a tongue, *teremu*, to fit the depression, *ruawhetu*, in the *poupou*. The *heke* against the *roro* was like its corresponding *poupou*, sometimes split and placed half inside and half outside the *whare*. The rafters were kept in place by lashing the lower ends to the *poupou* and the upper ends to one another over the *tahu*, and in some cases to a lighter beam, the *tahu-iti*, which lay along the *tahu*.

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"The front edge of the walls was protected by slabs, *amo*, as a rule carved to conventional form. The *amo* supported the lower ends of the barge-boards, *maihi*. The *maihi* had near the lower edge of the back a projecting rib, *papawai*, which rested against the foremost rafter, or in some cases replaced a rafter. The *maihi* were carried beyond the *amo*; the projecting part, known as the *raparapa*, being carved with a pierced pattern, which formed over the *amo* a shallow mouth fitting over the head of the figure in the *amo*. The upper part of the barge-boards was finished plain, and ornamented with painting. The junction of the barge-boards was covered by a carved flat face, the *koruru*, which was adorned with feathers, and sometimes surmounted by a full-length figure, the *tekotcko*. The *koruru* was kept in place by a boss at the back, which was pierced horizontally.

"The wood-work of the roof was completed by laying on the rafters horizontal battens, *kaho*. Of these there were an even number on each side, the upper and lower one on each side being called *kaho patu*. The *kaho* were first kept temporarily in position by cords between the rafters passing over the ridge-pole. These cords, which were known as *kaumahaki* were replaced by the permanent supports, *tataki*, ropes passing over the *tahu* and down the back of each *heke*, being knotted to each *kaho*, and the ends made fast to the backs of the *poupou*.

"The covering of the framework involved several processes. For the roof, *tuanui*, the *kakaho* (reeds of *toetoe*) were lashed evenly to laths, called *karapi*, which were placed at distances corresponding with those of the *kaho*. The screens thus formed were laid, with the laths uppermost, upon the *kaho*, to which they were carefully bound by strips of flax. The flax was passed from above, carried diagonally across the *kaho*, up through the *kakaho*, and over the *karapi;* a second, and sometimes a third, stitch was taken at a distance of about two inches, and the same repeated at short intervals. When the whole roof was covered in this way it was strewn with *raupo*, in layers known as *tuahuri;* these layers were kept in place by strips of flax tied to the *karapi*. Over the *tuahuri* were laid bundles of *raupo*, *aranati*, the process of laying which was known as *nati*, and over these were layers of *toetoe*, *aratuparu*, then *aranati* again, and so on alternately, until it was judged that the roof was of sufficient thickness. Over all was placed a thatching, *arawhiuwhiu*, of *toetoe*, the laying of which was called *tapatu*. It was found that *toetoe-rakau*, a

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variety found in the bush, was more durable than *toetoe-kakaho*, or *upoko-tangata*. In the best class of house the ridging was further protected by a *turihunga* of *ponga*, fronds of tree-fern. The thatching was protected from damage by the wind by *aka* vines, placed latticewise across the roof; this open lattice-work was called *tatami*. In smaller houses light rods of *manuka* took the place of the *aka*. In the north this end was secured by the use of thick ropes of *mangemange* (a species of climbing fern—*Lygodium articulatum*), which are there called *taotao*. The *peru*, or eaves, were made sufficiently prominent to throw the water off the walls.

"The spaces of the walls between the *poupou* were filled in by mats woven from strips of flax leaf, or *kiekie*, or with lattice-work panels, known as *tukutuku*. The *tukutuku* consisted of light horizontal laths, *kaho-tarai*, half inch to one inch wide, which were closely laced to vertical reeds, *kakaho*, with narrow strips of *kiekie (Freycinetia Banksii)*, white, or dyed black, and occasionally with *pingao (Desmoschenus littoralis)*, a rich orange-coloured grass; but where these were not procurable, flax was used. The laths of the *tukutuku* were sometimes painted red and black, four, or some even number of one colour together, and an equal number of the other colour following. In making the *tukutuku* each lath was lashed to each reed, a variety of stitches being used. If the strips of *kiekie* formed a cross on the lath in front of each reed, the stitch was called *pukonohi-aua*. Single stitches were known as *whakarua kopito*, or *tapuae-kautuku*, according as they formed diamonds or zig-zag lines, either vertical or horizontal; the pattern formed by the latter stitch was also sometimes called *waewae-pakura*. In well-made *tukutuku*, a rounded rod, *tumatakahuki*, ran up the middle of the face of each panel. It was lashed to the laths by close stitches, crossing in front, each stitch passing over two or three laths; this lashing was known as *pihapiha mango*. Further ornamental effects were produced by alternate use of black and white *kiekie*. The two patterns most commonly used were a succession of chevrons, *kaokao*, and a step pattern, *poutama*. Other more elaborate patterns were designated *kārawa wāwawawai*, *tākārārarautau*, &c. The *tukutuku*, when completed, was framed in the rebate of the *poupou* and *papaka;* horizontal battens, four, five, or more in number, being lashed to the backs of the *poupou* to keep the panels in position. Warmth was obtained by means of vertical bundles of *raupo*, called *tupeni*, which were lashed to the battens just referred to. The front wall was finished off with *kakaho* reeds, neatly held in

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place with cords of *whitau*, or prepared flax. For the sake of effect, ornamented reeds were placed at even distances, the ornamentation being produced by winding strips of green flax spirally around the reed, and then smoking it, and removing the flax.

"Finally, across the entrance to the porch was placed a stout piece of timber, the *paepae kainga-awha*, or *paepae-kai-awha*, or *paepae-roa*, about eighteen inches by four inches, lying on its edge.

"An explanation has been suggested for the position of the door and window—that it afforded those in the *whare* the advantage in the case of an attack. In some *whares* a small aperture was made in the *roro*, under the eaves on the side door, and through this aperture the ends of the long fighting-spears projected into the *whakamahau*, so that in case of a surprise, the warrior could snatch up his spear without delay in his right hand as he rushed out of the *whare*.

"In the *whare* the place of honour is immediately under the window; this is reserved for the important guests, the chief men of the place taking up their position on the opposite side. This inferior side is called *pakitara i a Tawheo*, in allusion to a great chief who invariably sat on the lesser side, saying that the other side was well enough for the common run of chiefs. In other tribes this side is called *te kopaiti*, and was allotted to the slaves of the family.

"The floor was strewn with rushes and fern, with the exception of a bare space inside the door, the rushes being kept back by pieces of wood, *pae* or *pauruhanga*, which were pegged to the floor. Over these rushes, on state occasions, were laid the *whariki*, mats of flax or *kiekie*, which were known by various names, *koaka*, *waikawa*, *takapau*, &c.; the flax or *kiekie* being split into strips of equal width, with the thumb nail.

"The hearth, *takuahi*, was a space about a foot square, generally defined by four stones, and was placed half-way between the *pou tokomanawa* and the front *pou-tahu*, the side of the hearth being placed on the line drawn to the *pou tokomanawa* from the edge of the *pou-tahu* next the door. The smoke from the fire soon obliterated all the painted work on the great rafters inside the *whare*.*

* The three colours used—white, black, and red (*ma*, *pango*, and *whero*)—were mixed with oil or fat, and applied with a wisp of flax. The patterns used for ornamenting the rafters were numerous, and were all named.

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This fact, coupled with the destructible nature of the materials used in buildings, makes it impossible to obtain specimens of painted scroll patterns any great age ; and the best Maori artists of to-day cannot free themselves from *Pakeha* forms of ornamentation, which they have, unconsciously perhaps, assimilated.

"Of course every step in the construction was taken with the greatest ritual, and appropriate *karakias* were recited. No woman or cooked food was allowed within the precincts of the *whare* until it had been formally opened by the ceremony of the *Kawa*. The baptism, or the naming of the house, includes the taking off of the spell under which the building had been laid during its erection."

To this detailed account the Editors of the "Polynesian Journal" add the following:—"In the building of all large houses intended for meeting-places of the tribe, or for the entertainment of visitors, on the erection of the main pillar or *pou-tokomanawa*, a slave, or in some instances a member of the tribe, was sacrificed, and after the abstraction of the heart, the body buried at the foot of the *pou-tokomanawa*. The heart of the victim (*whatu*) was cooked and eaten, after many *karakias*, by the priest, or *tohunga*, presiding over the work. This was the practice in some districts, as for instance among the *Arawa* tribe; but on the East Coast the victim, *whatu*, was buried at the left-hand back corner of the house, at the base of the *poupou* in that corner. Amongst the *Urewera* tribes, the *whatu* was called *ika-purapura*, and it was buried at foot of *pou-toko-manawa*. After some time the bones may be exhumed and taken to the *tuahu* (altar), and there used as a *manea*, or means of beneficial influence for the owner of the house. *Manea* means the *hau*, or spirit, the essence of man, and also of the earth. The following lines from an old song allude to this custom; it is part of an *oriori*, composed by some member of the Ngati-Kahungunu tribe of the East Coast:—

"Ka whaihanga Taraia i tona whare,
Ka makaia taua potiki
Hei whatu mo te pou-tua-rongo,
O tona whare, o Te Raro-akiaki.

"Then Taraia built his house,
Placing his youngest child
As a *whatu* for rearmost pillar
Of his house, of Te Raro-akiaki.

Taraia was a very noted ancestor of the Ngati-Kahungunu tribe, and the house whose name is given above was erected at Herepu, near Karamu, Hawke's Bay. The ritual connected with the taking off of the *tapu* from a new house differed in

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each tribe. Mr. Elsdon Best gives the following account of the ceremonies used by the *Urewera* tribe:—"When the building is finished, and the people assembled to the *Kawanga* (opening ceremony), the priest affixes to the *pou-tuarongo*, a piece of the *petako* (= *Lomaria Patersoni*), or some other sacred plant, which is called a *maro*. The object is to draw warmth to the house, and to 'bind' it there. The pillar is then named *Rua*. On completion the priest issues forth from the house, and taking a wand of *Karamu* wood in his hand, strikes the side of the house, and then commences to recite a *Kawa*. After this he strikes the *riko* (corner posts of house) with his wand, then the *mahihi*, the *tau-tiaki*, and the *paepae-awha*, reciting at the same time the *Kawa*. The priest then ascends to the roof of the house, and recites a *karakia-whakanoa*, or invocation to make common—*i.e.*, free from *tapu*. That of the *Urewera* tribe is as follows:—

"Manamana hau, manamana hau,
Pera hoki ra te korepe nui te korepe roa,
Te wahi awa te totoe awa,
Whakamoea, whakamoea tama,
Kauka tama e uhia,
Kauka tama e rawea
Ki te ata tauira mai-ea
Mai-ea te niho o te tupua
Te niho o te tawhito
Te whakahotu-nuku, te whakahotu-rangi,
Tururu o hiti, whakamau kia tina.

Chorus of people: Ti-i-na!

I aua kia eke,
Eke Tangara,
Eke panuku,
Hui-e!
Taiki-e!

Chorus: Ka noa te whare.

All join in the response, which is heard far away. After this the house is free from *tapu*, and people may sleep in it."*

In addition to the *tuku-tuku* work with flat laths laced with strips of flax, Mr. Colenso mentions that "sometimes the Natives lined their houses with the small light-brown, narrow stalks of the common fern *(Pteris esculenta)* all cut to one

* "Journ. Pol. Soc.," Vol. v., p. 154.

The particulars of ceremonies performed during process of removing the *tapu* from a new house may be found in J. White, "Maori Customs and Superstitions," p. 107; in "The Appendix to Journals, House of Representatives," G. 8, 1880; and in "The Life of Patuone," by C. O. Davis," p. 136.

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length, and placed horizontally and closely, and built up or interlaced together with a very great deal of care and trouble, between the *pou-pous* of the building."*

They also lined the roofs of their dwelling houses and *Kumara* stores (the first layer of thatch placed upon the white rafters) with the large green leaves of the *Nikau* palm *(Areca sapida)*, which were regularly placed on while fresh, and their long, narrow pinnate leaflets neatly interlaced; those which were green at first soon became of a uniform dark-brown colour on drying, serving remarkably well to set off to advantage the light-coloured rafters of *Kauri* or *Tawa* wood. This mode of roofing chiefly obtained at the North among the Ngapuhi tribe, where *totara* timber was not so common as in the South.†

The only other building in a *pa* that in anyway compared with the large *whare maire* was the great storehouse, or *pataka*, in which were kept the personal possessions or provisions of the chief. In all the old pictures of Maori villages, various kinds of small storehouses for provisions, &c., are conspicuous objects, elevated often to a great height from the ground on a post, or even affixed to the trunk of some convenient tree, and reached by a notched pole as a ladder. Usually these boxes or small houses are painted red, and sometimes they are carved. A *pataka* was often, however, of considerable size, and placed on strong piles a few feet from the ground. The sides, in some cases, were lined with slabs cut from the thick trunks of the tree-ferns; and Mr. Colenso saw at Ruatahuna the trunk of a *Dicksonia squarrosa* grotesquely hewn by the Natives into all manner of shapes in cutting out these slabs *(turihunga)*, which are not only easily cut for building purposes, but are practically rat-proof. I noticed slabs of this kind built into storehouses at Poverty Bay a few years ago.

The East Coast of the North Island, between Poverty Bay and Tauranga, seems to have been the chief centre of the art of wood carving, and a district pre-eminently noted for carved storehouses. Two noble examples from this district are in the Auckland Museum,‡ and will well repay careful examination. Of other specimens we have only fragments; but enough remains to show that if the *whare whakairo* was the palace of the Maori civilization, the *pataka* was the treasury,

* Colenso, "Trans. N.Z. Inst.," Vol. xiv., p. 63; see also Vol. xiv., p. 50 (note.)
† Colenso, "Trans. N Z. Inst.," Vol. xiv., p. 63.
‡ See "Trans. N Z. Institute," Vol. xviii., p. 421; and p. xxvii., p. 674.

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and its adornments were not only elaborate and beautiful, but had special significance. Their beauties also were more easily seen by the people and by travellers, as the carving was on the outside and plainly visible; whereas a large part of the carvings of a Maori house, being mainly on the inside, could seldom be seen after their erection, especially the large slabs at the ends (*poutahu*).

Under special circumstances food stores were erected in lakes,* as at Horowhenua; and in describing them Taylor mentions a Ngatiranui tradition that "there were formerly tree-houses inhabited by Maoris on the slopes of Mount Egmont."†

Storehouses supported on piles were used for containing the spears and weapons of the fighting men.‡

Crozet describes the open space in the *pa* he visited as containing three public buildings, the first of which, and the nearest to the village gate, was the general magazine of arms; a little distance off was the food storehouse, and still further the storehouses for nets, all the implements used in fishing, as well as all the material for making the nets, &c.§ "These public storehouses," he says, "are made of timber well squared and fastened by mortice and tenon, and pinned together. They are generally oblong in form. Instead of planks for the walls of their houses, they make use of well-made straw matting, which they ply doubled or trebled one on top of the other, and which shelter them from wind and rain."

For storing *Kumaras*, several plans were adopted. One was a small house put together with much care and neatness, with a raised floor, and with the lower part boarded at the sides to keep out rats. A verandah was generally carried from the roof right round the building, supported by carved pillars. The door is made very small, and contracted at the top. These stores were always rigidly *tapu*, and could only be entered by certain persons at certain times.

* Taylor, "Te Ika," 2nd ed. (see plate); and "Trans. N.Z. Inst.," Vol. v., pp. 101-102.

† Mr. Elsdon Best describes in the "Journ. Pol. Soc.," Vol. ii., p. 86, "a tree fort used by some of the Muaupoko at Whakahoro, near the present township of Manukau. It was constructed more than 50 feet from the ground on the branches of three large trees (*Kahikatea*), and was kept in order as a refuge till the time of Rauparaha, when the introduction of firearms rendered it untenable."

‡ Polack, "Manners and Customs of the New Zealanders," Vol. i., 212.

§ "Crozet's Voyage" (H. Ling Roth), p. 24.

Food storehouses are built north and south, lest spirits going to the *Reinga* should pass over them, which would cause the food to decay.—Gudgeon, "History and Doings of the Maoris" (1885), p. 118.

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At the present day *Kumaras* and potatoes are stored in small huts (*Rua*) made underground, with the eaves of the roof resting on the ground. These may still be seen in villages on the East Coast—often a little group of them is fenced in, to keep away pigs and horses. The lintel of the doorway is generally roughly carved.

In addition to their houses in the village, the Maoris erect sheds for resting and cooking on their plantations, where they also have storehouses for depositing the seed during winter.

The ceremonial regulations, or *tapu*, in connection with food, were very strict and rigidly observed, consequently every family and every chief had their own cooking shed, often a mere screen or shelter from the wind.

Angas* records an interesting form (now passed away) which he saw at the old Waitahanui *pa* at Taupo. He says:—"The cook houses where the father of Te Heuheu had his original establishment remained in a perfect state; the only entrances to these buildings were a series of circular apertures, in and out of which the slaves engaged in preparing food were obliged to crawl. Cook houses were frequently built with the tree-fern trunks as being less inflammable than the ordinary bundles of reed and posts. Near the cooking houses would be one or more *whatas*, or stores for firewood, raised on posts about six feet from the ground."

Dr. Marshall, describing a cooking-shed on the Taranaki coast, says:—"The walls consisted of little more than wattled flax, and the roofs for the most part being merely dry-thatched with grass, the thatch projecting on both sides over the walls; and the roof at both ends being prolonged to form a rustic porch. The doorways, also, were much larger to admit of easier ingress and egress; while there were no doors to them;—but the size of the stone ovens within, if everything else had been wanting, would have at once denoted the office to which this variety of building was appropriated. Occasionally, one roof was found to cover in two, three, or four such kitchens, but each otherwise unconnected with its neighbour, and all having separate entrances. The separation of these many kitchens under one roof being rendered more distinct by stores of wood, all the pieces cut in equal lengths, being piled up with the utmost regularity and compactness against the several partition

* Angas, "Savage Life and Scenes," Vol. ii., p. 125.

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walls. In the number of these stores, and the abundance of wood contained in them, no little foresight was exhibited; the wood being cut at stated seasons in a sufficient quantity to last for several months."*

The advantages and disadvantages of the position of persons of high family are well shown in the story of Pare, a Ngai-Tahu chieftainess, a sacred woman of the highest rank who was kept unbetrothed till a chief of the same rank sought her hand. She lived with her female attendants in a carved house, which was set apart for her sole use, and was most beautiful, and surrounded by three sets of palisades. When food was prepared for her, it was given by those who cooked it to an attendant who gave it to a second attendant who gave it to a third. By this one it was taken and placed before Pare. The house was adorned with beautiful mats, and perfumed with all the perfumes known to the Maori people, such as sweet-smelling gum, grasses, mosses, and shrubs.

In connection with the ceremonies attending the initiation of a chief's son into the mysteries of the priestcraft, a special shed was required, constructed of the leaves of the *Nikau* palm, an equal number of leaves or sticks being required on each side and at each end; and, further, the makers of the shed must all be chiefs. In this shed the candidate had to pass a certain time.†

As previously mentioned, canoe houses, or sheds *(wharau)* were built to protect the great war canoes from the sun and weather when drawn up on the beach. Polack says that "the sheds had open sides, and that sometimes families dwelt in the roof portion, ascending by means of a notched pole."‡

The houses of the natives of the Taranaki coast on the west side of the Island seem occasionally to have differed from those in the other parts of the Island, in having the entrances at the side instead of the end, and a projecting verandah with several carved posts. I have seen houses of this kind at Mohaka, on the East Coast; but suspect modern influences in this case. Sometimes these West Coast houses were of great size, even 120 feet long by 30 feet in width. One is remembered as being 140 feet long and 18 feet wide, having seven doors or openings, and a rude verandah in front about 3 feet wide.§

* Dr. W. B. Marshall, "Two Visits to New Zealand in H.M.S. 'Alligator,'" 1834, p. 213.
† E. Tregear, "Journal Anthropological Institute," Vol. xix, p. 99.
‡ Polack, "Manners and Customs of the New Zealanders." Vol. i., p. 112.
§ Wells, "History of Taranaki," p. 54. The house called *Te Uru-o-Manono* or *Te-tihi-o-Manono* (in *Hawaiki?*) was so large as to have 10 fires in it; and there were 8 doors to it (P.M., 121.) It was probably of this West Coast type.

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Taylor mentions that "the great Taupo chief, Te Heu Heu, had a long building about 40 feet in length at Te Rapa, resembling an eight-stalled stable, each compartment being occupied by one of his wives"—but this was in the good old days.

Dr. Marshall describes a *whare-mahana* at Waimate, on the West Coast, which is also somewhat different to houses on the east side of the North Island. He says*:—"The *whare-mahana* consisted of a single apartment, and appears to have been used almost entirely as dormitories. They displayed a greater degree of care, as well as skill, in the construction than any of the other varieties. Yet, their external appearance was rude, the walls and roof being made of mud and clay, and the former staked in on all sides; the stakes at the side being pointed at the top, so as to correspond in height and appearance; while those in front and behind were cut to correspond with the gable-end of the roof, over which the turnip and *kumara* spread out their thick foliage, forming a sort of leafy canopy over all, very refreshing to the eye, which might otherwise have tired at gazing upon the monotonous dullness of the town generally.

"The interior of these houses was, on the other hand, beautifully and even elegantly fitted; the walls, as it were, wainscoted, with a row of cane running round the whole room, and divided horizontally into square compartments by ligatures of carefully twisted and plaited grass, crossing at regular distances four smooth and polished stanchions, these again supporting a framework, from which four arches sprang to support the ridge-pole at the top, it being upheld only by three pillars, in the shape of which the first dawn of architectural embellishment is seen, they being handsomely formed and decorated with comparatively chaste carving . . . a bed of dry fern was spread over every floor . . . The occupants repose their heads round the base of the pillars in the centre of the room, and stretch themselves out like the radii of a circle."

It should probably have been mentioned before that (as is universally the custom in all parts of the world) caves were frequently inhabited by the Maoris. Unfortunately, but little attention has been paid to the proper exploration of the caves found in New Zealand; but in a few instances, such as the caves near

* "Narration of Two Visits to New Zealand in H.M.S. 'Alligator' in 1834," p. 211.

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Christchurch (known as the Sumner and Monck's Caves)* most interesting evidences have been recovered of facts concerning the habits and modes of life of the people who used the caves either as temporary or permanent dwellings.†

Scattered throughout the various stories and poems of the Maoris are references to domestic arrangements that have probably either long passed out of use or were exceptional. In the case of the legend of the entrapping of Kae, the magician, one of the points of the story is the difference between the round-house of the one chief, as contrasted with the more ordinary form of the house of the other. [This is, originally, a Samoan story. Kae came from Tonga, hence the difference in the style of building, &c.] Again, in a story of the perhaps-mythical hero, Tini-rau, it mentions the four pools where he bathed, and where he went to see his own reflection—his natural looking glasses. These were carefully enclosed, and Hine-te-iwa-iwa is represented as breaking down the doors and fences of three of these enclosed pools.‡ Enclosures somewhat similar to these were sometimes made in the rivers for the purpose of securing the *ketes* of *karaka* berries, maize, or potatoes (= *kotero*) which were soaked until putrid, and then eaten with apparent relish. Angas saw one of these in the Waikato about 20 feet square, carefully made.§ Polack mentions a building (probably the result of the trade in the *Phormium* fibre). He says:—"The largest public works undertaken are those of flax houses, some of which are above 100 feet long, 30 feet in width, and 40 feet high. Among the natives, the sides of a flax house are generally open, with poles only placed across it; the flax being *tapu*, it is safe from depredation."

According to one of the versions of "The Legend of Whakatau,"‖ there was a window in the roof of the *Tihi-o-manono*. Sir George Grey figures in his "Polynesian Mythology"¶ a house with a square opening in the roof.

The Colonial Museum in Wellington possesses a finely-carved house, in which the carvings are exceptionally bold and massive. Tareha, a noted chief of Hawke's Bay, describing this house at a meeting of the Wellington Philosophical

* See "Trans. N.Z. Inst.," Vol. vii., pp. 54-85, and 98-105; and Vol. xxii., pp. 64-70.

† When fleeing from a pursuing enemy, caves were resorted to as being less liable to be attacked than *pas*; and, if attacked, escape from them was easier. In the story of "The Last Migrations from Ha-taitai," the Ngatimamoe are represented as using caves for shelter; and it is stated that the more recent drawings seen overlying the older ones were made by them at that time.—A.H.M., Vol. iii., p. 251.

‡ A.H.M., Vol. ii., p. 134.

§ Angas, "Savage Life and Scenes," Vol. ii., p. 28.

‖ A.H.M., ii, 152 and 153.

¶ P.M., p. 174.

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Society, mentioned that the lower and larger figures of the *pou-pou* represented the fathers and the uppermost ones the sons—illustrating in this way the ancestry of the builder of the house and of the tribe.

The Christchurch Museum has a house which was built by Honu-tu-ahu, called *Hau-te-ana-nui-a-Tangaroa.**

The *Whare matoro* was a house in which games were played or dances practiced, such as the Kani-Kani.

Passing from buildings, there are a few other items belonging to a Maori *pa* that should be noticed, and especially the strictly-tapued area, known as the *Wahi tapu*, or sacred groves.

The *Wahi tapu* seems to have been sometimes a small clump of bushes or some retired spot in, or just outside, the *pa*, sometimes fenced off. In its general sense, it was the place where the bodies of deceased chiefs were placed, either above or below ground, until the final ceremonies *(hahunga)* took place, and the bones were stored in the family burial cave *(torere)*. Practically, any place might be made a *Wahi tapu* for a certain purpose; thus Angas mentions that he saw "within a small railing in one corner of the verandah of the largest house at Pari-pari a *Wahi tapu*, where the head of Te Kauwau, with his feathers, *hani*, and mat were deposited."† Even in recent years there is usually in the neighbourhood of a *pa* a place where the household utensils and personal belongings of a deceased person are thrown. The spade with which a grave is dug is always thrown away afterwards, and not used again.

A curious form of *Wahi tapu* is recorded by Bidwill.‡ He says:—"On the brow of a steep hill overlooking the *pa* stood a singular erection of sticks almost resembling basket work, elevated on four upright posts, and having a semi-circular top. Within this cage-like building was placed a variety of different articles, household utensils, skins, calabashes, and dried fish; and several garments and baskets were suspended from the sticks underneath:" and I have already mentioned that Angas noticed a little model canoe placed with other property of a deceased chief in a *Wahi tapu*.

* A.H.M., ii., 163, and "Trans. N.Z. Inst.," Vol. i. (n. ed.), pp. 445-446; and Vol. viii., pp. 172-176.
† Angas, "The New Zealanders," Vol ii., p. 88.
‡ Bidwill's "Rambles in New Zealand," 1841, pp. 262 and 297.

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For religious purposes, the priest of each *pa* would have his *tuāhu* or altar, a sacred place for divination. Taylor* says:—"A *tuāhu* was a short stone pillar stuck into the ground in a slanting position; it was really any place made sacred, where incantations are recited, and usually consisted of merely a few sticks stuck into the ground with their tops tied together with flax."

Near Ohinemutu there were no fewer than three of these cairns of stones and stakes and soil: one at Motutara, one at Te Arikiroa, and one at Utuhina. At each of these places, *atuas* were consulted on subjects of consequence to the tribe.

The *tuāhus* mentioned in the legends seem to have been platforms or raised places built of stones; but some of the traditions represent the chiefs of the great *heke* as setting up a wooden post for their *tuāhu*, as when Hoturoa and Hapi disputed over the position of their respective altars.† Takaanui Tarakawa says:‡—"There are many kinds of *tuāhus*: the *Tapatai* is one, *Ahupuke* another, the *Torino* another, the *Ahurewa* another—this kind is movable: it is a good one like the *Ahurangi*, and brings salvation to man. The latter kind of *tuāhu* is made on the ground, and can be removed, but the prayers must be offered at a distance, and then the earth must be removed to another place and left." An instance is given in the same volume of the Journal, of a powerful sorcerer, Kaihamu, who, with a number of his friends, was entrapped by his enemies in a large house. He sought for the means of preparing an altar, or *tuāhu*, for his incantation. Not finding the means in the house, he used his hollowed hand for the purpose. This sort of *tuāhu* was also called *Ahurangi*. The incantation was then thrust out through the window. Such was his power, that his enemies were blasted, and Kaihamu and his people escaped. It was at the *tuāhu* that the ceremony of offering the hair, or lock of hair, from a slain foe, or the body of a prisoner of war, took place *(whangai-hau)* with appropriate invocations to the war-god. When the hair of a chief is cut, the hair cut off is always carefully dealt with, and never thrown away carelessly or allowed to be lost. In the neighbourhood of the Maori settlement at Kaikai Bay, near Dunedin, the cliffs are full of crevices, and many of these have been used to deposit clippings of hair, the crevice being then carefully plastered over with mud or clay.

* "Te Ika," 2nd ed., p 183.

† "A. H. M.," iv., 28.

‡ "Journ. Pol. Soc.," Vol. iii., pp. 202 and 152. See also p. 173.

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A sight that always impressed the early settlers was the food scaffold, or stage, for displaying the food collected for one of the great feasts (*hakari*). Sometimes a number of poles were planted in the ground, 50 or 60 feet high, which were made to support 8 or 10 stories, or stages, heaped up with baskets of food to the very top. Mr. Colenso mentions that "to enable great weights to be raised to their high stages for great feasts, they used rollers smoothed and wetted or covered with wet seaweed —making the body to be moved glide the better. At other times, long rows of baskets of *Kumaras* were erected; these were made with the greatest care; they were generally about four feet high, as many broad, and were, in modern times, covered with pigs, roasted whole; several hundred were often thus killed for a single feast, or else their place was supplied by dried fish, and with what is still considered a great delicacy—birds or pork cut up small and cooked in their own fat *(huahua)*." Views have been published of some of these great feasts held near Auckland, in which long rows of bags of flour and of sugar, with potatoes and maize, partly replace the food of former days.*

Somewhat similar frameworks are erected to dry the flesh of the sharks and eels that are so prized by the natives, and also to ripen the cut cobs of the maize.

In a suitable place in the war *pa* stood the *pahu*, or war gong, consisting of a large piece of dry, light wood (generally *Matai*), suspended from a framework either by one or both ends. This piece of wood had a portion cut out of the centre, and when struck vigorously with large wooden mauls, or hammers, gave out a noise that could be heard at a great distance. In two instances I have seen a huge hollow tree-trunk, in which a portion of the side had been detached, so as to represent a long pendant tongue *(tohetohe)*, the part above being carved to represent a gigantic face. The tongue being struck with a heavy club of wood or a stone, produced a loud sound. In the second example, a portion of a decayed tree-trunk, resembling a long pendant tongue, was used; the whole had been painted red, but was not carved. War gongs of this kind are used by the Malays, and by the Indians of the Cordilleras of Mexico.† Mr. Potts saw the Hau-haus at the Hikurangi meeting called to their

* Figures of these food stages are given in Polack, "New Zealanders," Vol. ii., p. 23; and a description by Mr. Colenso is to be found in "Trans. N.Z. Institute," Vol. xiii., p. 13.

† The Malay name for the gong is *Kayu-Kutoh*, or wooden gong, on which the watchman, or *Mata-mata* (man-with-eyes), beats the hour. In the "Story of N.Z.," by Dr. Thompson, Vol. i., the frontispiece shows a *pahu* with the striker on an elevated stage. So also in "Savage Life and Scenes," Angas, Vol. ii., frontispiece and p. 150.

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place of worship by the beating of the *pahu*. It was made of *porokaiwhiria* wood *(Hedycarya dentata)*. It was hung from a cross pole supported at either end by a forked stick. The sound was produced by this rough wooden drum being beaten on its edges by several persons furnished with short batons. Angas describes the one he saw at Otawhao as an oblong piece of wood, about six feet long, with a groove in the centre, slung with ropes of flax. It was kept sounding during the night to inform the enemy that the inmates of the *pa* were on the alert, and to assure the people of the *pa* that the watchman was on the look-out.

Kiwi, a chief at One-Tree Hill (Mangakeikei), near Auckland, had a large slab of greenstone called *Whakarewhatahuna*. The slab was suspended and used as a war gong, and was supposed to carry the *mana* of the Tamaki district; and possession of it was evidence of the ownership of the land.



Rua, **or Underground Storehouse for Root Crops, at Wai-o-matatini.**

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TOMBS.

The ceremonials attending the funeral rites of a Maori chief were numerous and elaborate, but all that can be treated of here are the memorials erected to his memory after his death. The modes of disposing of the bodies of those other than chiefs seem to have been:—

By throwing into the sea.

By burial in the sand or earth, in either horizontal or sitting position.

By cremation—practised extensively in the South Island.

By burial in wooden coffins hewn out of a log, with lids, and placed either in caves or underground chambers.

By wrapping the body in mats and placing in dry caves.

By throwing the body into a hollow tree* or chasm in the rocks.

By burial in a rough chamber made of stone slabs (on *Mokoia*).

The bodies of chiefs and persons or children of special note were treated in a variety of ways, the first process being generally the exposure of the body on an elevated stage or platform, or a preliminary burial until decomposition had removed the soft parts; the bones were then carefully extracted and cleaned, and at a convenient season a great feast was held, and the final ceremonies performed, before the cleaned bones, neatly tied up, and often painted or ornamented with red paint, were placed in the tribal burial cave or *torere*. A carved box or casket was frequently used as a shrine for a portion of the bones, ranging in size from small ones, which would contain only a few bones, to those large enough to contain a complete skeleton. These boxes would be kept in the cave or elevated on a high post and surrounded by a fence.

The memorials were often very elaborate, and presented a beautiful appearance when recently executed.† Figures are given of some of these, and in the first

* See Mair, "Trans. N.Z. Inst.," Vol. xxviii., p. 38. "The Panenehu used to deposit their dead in a very large *pukatea* tree, called Te Ahoroa, which stood on the left bank of the Otara river. There was a hole at the top, 50 or 60 feet from the ground, and the dead were hoisted up and thrown in." Also note, Jan 1881. Some settlers up the Opotiki Valley reported having discovered a great quantity of human bones. I immediately visited the spot, and found it was the place described by Maiki-Whenua as Te Ahoroa (the long line). An enormous *pukatea* tree, some 22 feet in girth, had fallen against the hillside, and, splitting open, disclosed cartloads of skeletons. I counted 397 perfect skulls, but an equal number probably had crumbled away, or been broken up by the trampling of cattle.

† See Taylor, "Te Ika a Maui," 2nd ed., pp. 12, 162, 174, 229; also, in the Illustrations prepared for White's "Anc. Hist. Maori," 1891; and Angas, G. F., "Savage Life and Scenes," Vol. i., pp. 275, 276, 279.

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part mention has been made of the canoe memorials, consisting of the whole or part of the chief's canoe planted in the ground, and either carved or painted and adorned with feathers.

Another kind consisted of three or more carved slabs decorated with feathers.

The painting of the bones with red ochre or paint is an interesting custom of great antiquity, and apparently world-wide in its occurrence. The Indians of British Guiana have the same custom,* and red paint in the form of hæmatite is found extensively in North American burial mounds.† A writer in the "Athenæum"‡ describes some remarkable "Well tombs" of the Sicani, near Palermo, as having small chambers in which were found the bones of men stripped of flesh, and still covered with red paint. He says:—"I should have stated that the practice of stripping the flesh from the bones has been explained as an effort to avoid detection of the remains by wild beasts. For my own part I should be more inclined to look for its origin in cannibalism. The painting might destroy the smell, and so wild beasts would be less attracted to the tombs, or it might be in honour of the dead." I believe the real explanation of it in New Zealand, where red is always a sacred colour, is in the last few words.

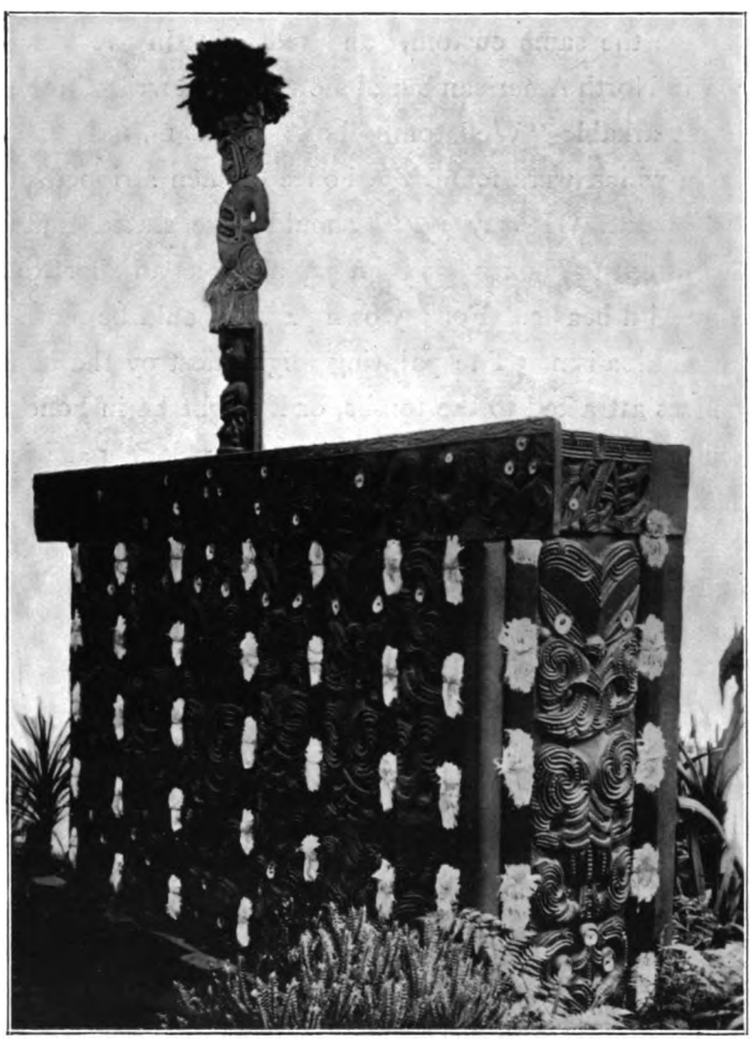
Stone pillars or posts were sometimes erected as memorials, as between Keri Keri and Kaitaia there are some perpendicular stones set up, called *Te Hakari*. They are also called *Whakarara*. These stones are sacred to ancestors; and natives, after passing them, chant the charm called *Whakau*.§ Again, we are told that when Tara's war party went to Kati-Kati and killed Miti-nui and Tu-te-rurunga, they put up a stone for each chief at the spot where he was killed. The attacking enemy put the stones up.‖

Stone boundary posts, or marks, are found in the Taranaki district, and are generally from two to three feet in height, cut from the local trachytic rock, pointed at the base, and having a human head carved at the top.¶

* "Anthropological Review," Vol. iv., p. cxcvi.
† "American Naturalist," August 1893, p. 716.
‡ "Athenæum," No. 883, April. 6, 1889, p. 244.
§ J. White, "Maori Superstitions," p. 108.
‖ A.H.M., Vol. v., p. 35. Holes were sometimes dug to mark such spots, and called *whakaumu*.
¶ On the importance of the Landmarks see J. White, "Maori Customs and Superstitions," p. 184

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Closely connected with these are *Rahuis*, which were usually posts more or less carved, set up either as tribal landmarks or as warning posts against trespassing on portions of ground under *tapu*.* Memorial figures were sometimes set up at spots where the body of a chief had rested on the way to the final burial place.†



The carved temporary resting place of the great Arawa Chief, Waata Taranui.

* Polack, "New Zealanders," p. 265. For other information about *Rahui*, see J. White, "Maori Customs and Superstitions," p. 190; and "Journ. Pol. Soc.," Vol. i., p. 275.

† Taylor, "Te Ika," 2nd ed., pp. 106 and 133.

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Pare, **or** *Korupe*, **the Carved Ornament over the door of a house. Taranaki.**

WORDS CONNECTED

WITH THE

HOUSES AND BUILDINGS OF THE MAORIS.

Aka.—Vines placed lattice-fashion across the *raupo* roof. The lattice-work is called *tatami* in the North. *Mange Mange (Lygodium)* is used for the purpose. The lattice is then called *tao-tao.*

Amo.—The two slabs, generally carved, in the front of a house, supporting the lower ends of the *maihi* or barge boards.

Amohanga.—Elevated platform for food. 2. The posts of a *whata.*

Anga.—Aspect of a house or garden.

Arahanga.—Bridge or ladder.

Arai.—Shade. A screen.

Aranati.—Bundles of *raupo* for the roof.

Arataparu.—Layers of *toe toe* on the roof of a house.

Arawhata.—A bridge. A ladder (= *Arohata*).

Arawhiuwhiu.—The outside layer of *raupo* on a roof.

Atamira.—A platform for a corpse (or *pouraka.*)

Ato.—To thatch.

Au.—Smoke. (*Au*, current of a river; *awe*, soot.)

Awamate.—A moat; a ditch outside the palisading of a *pa.*

Awarua.—A ditch. (*Whakaawarua*, ditch inside the palisading of a *pa.*)

Epa.—Posts at the end of a native house, between the *poupou* and *pou-tahuhu.* Not inclined inward as the *poupou.* The framework of the *tua-rongo.*

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Hamoko.—Opening between the small bundles of *raupo* which form the sides of a house.

Hangi.—An oven (= *Hapi.*)

Hapoki.—Potato house. (Pit, &c.) Also *Hapoko.*

Haurangi.—Verandah.

Hauroki.—The diagonal lines from corner to corner in setting out the plan of a house.

Heke.—Rafter.

Heke-tipi.—The carved board placed on edge from the top of the *poupou* to the top of the *pou-tahu*, and connecting the top ends of the *epa*.

Hereumu.—Cooking shed.

Hirinaki.—A rough piece of timber used as a support for the *poupous*, to resist the thrust of the rafters.

Hoka.—Screen made of bushes (= *oka*, the rafters of a *Kumara* pit).

Hopekiwi.—Potato house under ground. *Kopiha (Ngati-porou*, and *Ngarauru.)*

Hopi.—Native oven.

Hua.—Screen from the wind.

Huahua.—Rails of a fence, or *roau.*

Ihi.—Front gable of a house.

Ikuiku.—Eaves of a house.

Kaeaea.—Verandah. The image over the centre of the verandah.

Kakaho.—The reeds of the *toe-toe (Arundo conspicua)*, used in lining and ornamenting the inside walls and roof of a house, often burnt or smoked with patterns.

Kahia.—The image of a human figure carved out of a *pa* fence.

Kaho.—Battens on the roof.

Kaho-paetara.—A batten connecting the upper ends of the carved panels, lashing them into position.

Kaho-patu.—Battens on the rafters: those next the *tahu* and the *Kaho-paetara.*

Kaho-tarai.—Thin laths in *tuku-tuku* work.

Kahotea.—Having battens only on the roof.

Kainga.—Place of abode. An unfortified village.

Kauwhata.—A pole placed across two sticks to suspend food from.

Kakaka.—Fern stalks used in building.

Kamuri.—Cooking house or shed.

Kangatungatu.—Verandah.

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Kaoka.—Name of a *whariki* or floor-mat made of *kie-kie* or of flax. Also *waikawa*, *takapau*, &c.

Karahu.—Oven. Also *umu*, *topipi*, *tapi*, *karahu*, *korao*, *kori*, *kokua*, *kopa*, *okeoke*, *tarahu*, *marae*, *oumu*.

Karapi.—Sticks put in cross-ways in building a house, to keep the reeds or rushes in their place.

Karawa.—A bed in a garden.

Karupe.—Lintel of a door. *(Korupe*, or *Kororupe.)*

Katua.—Main fence of a *pa*.

Kauae.—Beam of a building.

Kau-mahaki.—Temporary cords to regulate the distance of the roof battens.

Kaungaroa.—Side fence of a *pa*.

Kaupae.—Steps of a ladder.

Kaupapa.—A level surface; a foundation; a floor. 2. A raised platform for storing food. 3. A raft. (*Ka mahia te kaupapa raupo.*—A.H.M., 5-68.)

Kaupaparu.—Flat-roofed.

Kauta.—Cooking house or shed. *(Ngapuhi)*, or *hereumu, or whareumu.*

Kauwhata.—An elevated stage for storing food. *(Whata.)*

Kawawa.—Palings of a fence. *Wawa* and *wita* of a *pa*. *Wana* of food enclosure.

Kawa.—Ta-i-te-Kawa. Remove the *tapu* from a new building.

Kawa-whare.—The general name of incantations to remove the *tapu* from a house.

Kereteki.—Outer fence of a fortified village.

Kiritai.—Space immediately outside the fence of a *pa*.

Koaka.—Floor mat. A coarse mat made of flax-leaves. (*Koka*, a coarse mat.)

Koihi.—Verandah.

Kokonga.—Corner.

Komanga.—Stage upon which food is kept in store.

Konakitanga.—Corner.

Kopa.—Angle, *kopanga*. Corner; native oven.

Kopa-iti.—The corner of house on left-hand side of door, where the slaves sat.

Kopae.—House ornamented with carved work.

Kopani.—Door closing the entrance to a *kumara* pit (= a cover).

Kopiha.—Pit for storing potatoes or *taros*.

Kopuha.—Small house.

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Korere.—Funnel, or spout, or pipe.

Kori.—Native oven. *Umu, hangi, topipi, ngepaki (Ngatiporou).*

Koronae.—Stile.

Koropu.—House; under-ground house; a low house; built with wrought timber.

Korotangi.—Pit for storing potatoes.

Koruru.—A figure placed on the gable of a house. 2. A toy with two strings, which when played with makes a whizzing or roaring noise.

Korupe, or *Kororupe.*—The carved slab over the doorway resting on the *whaka-wae.*

Kotaretare.—Stage projecting from the fence of a *pa*, and slanting upwards (= *Kahekoheko*). A look-out place in a *pa.*

Koteo.—A post; a peg. (*Me te Koteo mau Kupenga.*—Prov.)

Kotopihi.—Window.

Kone.—Posts supporting the *paepae* of a privy.

Koukouaro.—The carved figure on the front gable of a house (= *teko-teko*). (*Ka rere akiore taki te koukouaro ka ngaru atu.*—A.H.M., 11-28).

Kowhaiwhai.—A pattern of scroll ornament. Also *Kowhai.*

Kuhu.—Cooking house.

Kuhunga.—Hiding place.

Kukawhare.—Soot.

Kurapapa.—Flat roofed.

Kurupae.—Joist or sleeper of a house; beam.

Kuwaha.—Door of a house. Gate of a *pa.* The gate of the fortification.

Mahau.—Verandah. (*Whakamahau.*)

Maehi.—Verandah fence.

Mahihi.—Facing boards on the gable of a house.

Maioro.—Embankment or wall for defence.

Mamaku.—To prepare timber in a peculiar way with the adze.

Marae.—An enclosure in a *pa* belonging generally to the individual or family; properly the space before the *tohunga's* house; courtyard; where the discussions are held and speeches of welcome made.

Mataaho.—Window.

Matangaro.—*Te Kaho matangaro.* The batten next the ridge pole.

Maroke.—*Whaka maroke.* Eaves of a building.

Matapihi.—Window.

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Matatara.—Dam for water. *Papuni* (*Ngatiporou.*) The guiding part of a weir forming the entrance where the *hinaki* is placed for catching *piharau* (lampreys).

Moa.—Bed in a garden.

Moana.—Roof of a *kumara rua.*

Nati.—To tie up *raupo* in building the walls of a house. *(Nanati.)*

Nche.—Rafters of a house.

Ngaotu.—A method of working timber with the adze. (*He ngaotu tenei tarai*).

Ngawaewe.—Door posts.

Ngerengere.—Part of the fortification of a *pa.*

Ngutukaka.—A pattern of ornamental painting.

Ngutukura.—A pattern of ornamental painting.

Nohoanga.—Seat.

Okeoke.—Oven.

Oumu.—Oven. A weir for catching fish. Barricade.

Pa.—Fortified place. A name taken from the fence which surrounds the village.

Pae.—Step on a ladder.

Paenga.—A site to build upon ; a boundary ; place where pits are made for keeping *kumara* ; boundary of a cultivation.

Paepae.—Threshold ; door sill.

Paepae-poto.—Threshold of door.

Paepae-kai-awha.—Board across front of verandah to keep out pigs, dogs, &c.

Paetara.—*Kahopaetara.* Batten fastened to the uprights of a house to keep them in place.

Paewae.—Threshold.

Pahoka.—Screen from the wind.

Pahuki.—Shade or screen.

Paikea.—A long house having the doorway at one end, but no verandah. (*Ko to Tinirau he whare paikea.*—P.M., 2nd ed. Maori part, p. 40.)

Pakahokaho.—Skirting boards of a verandah.

Pakato.—A pattern of carving.

Pakitara.—Walls of a house. Side walls.

Pakokori.—A small house or cabin on an ancient canoe. ("*Koia kahore he tangata kia-tae ki taku pakokori.*"—A.H.M., 11-29.) *

Pakorokoro.—Stile fence. Store house.

* "*Kahore koia he tangata kia tae ki taku pakokori.*"

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Pakura.—*Tapuwae pakura.* Footsteps of *pakura* or *pukeko.* A kind of ornamental flax-work in a Maori house.

Pane.—That part of the *tahu*, carved like a human figure, over the porch or *whaka-mahau.*

Papa.—The broad board closing the doorway or window aperture of a native house.

Papaku.—Skirting-board, or *papaka.* The small square slabs between the *poupou* at the floor level.

Paparahi.—Stage upon which *kumaras* are dried. (Also the floor of the house.)

Paparahua.—A kind of table from which food is eaten.

Paparu.—Flat roofed.

Parepare.—Breastwork in a fortification.

Pare.—Carving above the door.

Paru.—Coat of *raupo* on the walls of a house and roof, not tied on.

Papatu.—Screen for defensive purposes.

Parakiri.—Innermost fence of a *pa*; inside the *katua* or main fence.

Pataka.—Store house raised upon posts. A stage upon which food is laid up in store. (*Kei te pataka e tu mai ra.*—P.M., 83.)

Patakitaki.—Dividing board inside fence. Divisions in store house. The principal residence. (*Tarahau*, lining boards; *tarawhare*, outside boards.

Patengitengi.—House wherein *kumaras* are kept.

Patu.—Wall of a house; screen. (*Kahopatu*, uppermost or lowest batten on the roof of a house.

Patutu.—A screen.

Pauruhunga, or *pae.*—Pieces of wood pegged to the floor, keeping back from the centre of the floor the rushes strewn on either side.

Peru.—Eaves.

Pikitara.—Verandah.

Pekerangi.—Outer or fourth fence of a *pa* (= *wita*, *katua*, *parakiri.*)

Pihanga.—Window.

Pora matanui.—Having a roof of moderate pitch.

Poti.—Corner, as of a room.

Pou or *poupou.*—Post for a house or fence; the upright broad slabs, usually carved to represent ancestors. They were set so as to incline slightly inwards.

Pouraka.—Platform erected on one post. (Or *poutaka.*)

Pourewa.—Elevated platform attached to the stockade of a *pa.*

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Poutahuhu.—Middle post inside, each end of house.

Poutama.—A pattern of *tukutuku* work on the walls of a native house.

Poutokomanawa.—Central post of the house, in the centre of house.

Pou-tuarongo.—The large post at the back of the house.

Puhara.—Elevated platform in a *pa*, on a level with the top of the *tu wata wata* or *katua* (main fence). Also a platform for fishing from (= *puwhara.*)

Pukonohiaua.—A pattern of *tukutuku* work on the walls of a native house.

Puni.—Shed for a *taua* or travelling party; a camp.

Pure.—A ceremony for removing the *tapu* from houses or persons.

Pureku.—Cooking shed.

Raihe.—Small enclosure; a pig stye.

Rangitapu.—Temporary scaffolding used in the erection of a large house.

Raparapa.—The lower ends of the *maihi* beyond the *amo*, generally carved with open-work patterns.

Rara.—Stage, or a grid for drying things at the fire.

Raupo.—The leaves of the *raupo* plant *(Typha augustifolia)*; bundles of these leaves used in building, tied together with strips of flax leaves *(Phormium.)*

Rauponga.—A pattern of carving.

Rauwiri.—Fence interlaced with twigs.

Rianga.—Screen.

Roau.—Rail.

Rona.—To tie with rope of *mange mange*; the rushes or *raupo* on the roof of a house; to tie. Also the ropes of *mange mangé*, or *aka*, outside roof to prevent wind disturbing it.

Rongomaioro.—Steep roof of a native house.

Roro.—The front of a house.

Rua.—Store house; a pit. (*Whaka-rua kopito*, a kind of ornamental work in the interior of a native building.)

Ruakoauau.—*Kumara* store.

Ruakopia.—Excavated store house.

Ruatahuhu.—Potato store.

Ruatirawa.—Store, the floor of which is excavated.

Ruapare.—Store built on the ground.

Rua-whetu.—A notch or depression on the top of the carved slabs or *poupou* to receive the end of the rafter.

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Rupe.—Verandah.

Tahuhu.—Ridge pole of a house.

Taiepa.—A fence.

Taka.—A batten.

Takapau.—Floor mat.

Takararararautau.—A pattern of *tukutuku* ornament on the walls of a native house.

Take.—Posts for the palisading of a *pa*.

Takitaki.—Fence for shelter.

Takuahi.—A stone fender or box for the fire let into the floor of a hut. The side of the fire. The stones called "*parua*" or "*tautau hauhunga.*"

Tangotango.—Rail of a fence.

Tapatu.—To roof a house; thatch.

Tapau.—A mat to lie upon (= *takapau.*)

Tapere.—*He whare tapere.* A house used for meetings of the "*hapu.*"

Tara.—Walls, or *pakitara.*

Taramatanui.—A low-pitched roof of a native house.

Tarawhare.—Storehouse for *kumara.*

Tata-Tatara.—Fence. Pointed pegs placed horizontally in the eaves of a *rua-kumara.*

Tataki.—To attach the battens of the roof of a house to a cord to keep them in place. Cord to which battens are fastened, reaching from *poupou* to *poupou*, being knotted to each *kaho*, passing up along the back of a *heke*, and then over the *tahu* and down the opposite *heke.*

Tatau.—Door. A sliding slab of wood usually on the right of the *pou-tahu* if seen from the inside, and a little to the left of the centre as seen from outside.

Tatau hauhunga.—Window.

Ta te kawa.—The act of performing the ceremony of the dedication of a building.—A.H.M., 1-9. (= *taki te kawa.*)

Tauarai.—Screen.

Taumaihi.—Small tower of a fortified village; facing boards of the roof.

Taupoki.—A horizontal slab over a doorway.

Taura.—Little piece of wood which fastens the window.

Tautari.—To tie up reeds to the side of a house. Upright stick in the wall of a native house supporting the small cross batten to which the reeds are fastened.

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Teki.—The outer fence of a *pa* (= *taki.*)

Teko-teko.—Figure placed at the top of the gable end of a native house.

Teremu.—A projection on the end of a rafter to fit into the *rua-whetu* or notch on the *poupou.*

Tia.—A peg.

Tienga.—Floor mat, or *tianga.* Mat to lie on.

Tihokahoka.—Shed (= *wharau.*)

Tiki.—A figure on the house gable.

Tikikiwi.—A method of finishing off the thatch of a house.

Timangu.—Stage upon which food is placed. Also *patake.*

Tinohi.—To put heated stones upon food laid to cook in a *hangi.*

Tipi.—*Heketipi.* Board placed on end under each of the end rafters of a Maori house.

Tirepa.—To line with reeds the roof of a Maori house.

Tiwata.—A fence.

Tiwatawata.—Fence of a *pa.*

Toanga.—The groove in the *paepae* to carry the sliding door.

Tokorangi.—Strong poles used as shears in the erection of the large posts and ridge pole of a house.

Torere.—A sacred place ; depository of bones.

Tuahuri.—To cover the roof of a house with a coating of *raupo* before thatching it with *toe-toe.*

Tuanni.—Roof of a house.

Tuaroa.—*Tuarongo.* Back part of a house.

Tuanan.—A heavy slab of wood used in getting the ridge pole of a house into position.

Tuhi.—Stitching of the reeds. Adorn with painting.

Tukahotea.—Having no covering on the roof.

Tuautuau.—Ornamented work in the interior of a house.

Tuauwaru.—Main posts in the palisading of a *pa* (= *tuauaru.*)

Tumatakihau.—Smaller side posts between the larger ones (= *tumatakahuki.*)

Tumatakahuki.—Upright sticks to support the laths to which the reeds are fastened in *tuku-tuku* work, between the slabs of a native house.

Tumatapu.—Small binding batten.

Tumu.—*Tumu-tumu.* Posts ; stumps.

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Tungitungi.—Sacred oven near a cultivation.

Tukaruparu.—To build with raupo.

Tupuni.—To build up the sides of a house with *raupo*, &c. The bundles of *raupo*.

Turihunga.—Dressed slabs cut from the trunk of the tree-fern placed round the principal posts of a house underground as a preservative.

Tutaka.—Carved ridge pole of the verandah.

Tuturu.—Doorpost. Any post of a door, or in a building.

Tuwatawata.—Fence. Palisade of a *pa*.

Uhi.—To thatch; to cover generally.

Umu.—Native oven.

Urupa.—Grave. Also the ground inside the fence.

Wawa.—Fence.

Wita.—One of the fences forming the fortification of a *pa* outside the "*kahia*" or main fence.

Whaitoka.—Doorway (= *whatitoka*.)

Whakairo.—Carving.

Whakapakoko.—An image. A carved figure of wood or stone.

Whakaporo.—Tops of posts cut to represent the heads of their enemies. A finished or wrought end of a post (= *whakangarengare*, *Ngatiporou*.)

Whakamahau.—Verandah. The open front of a *whare*.

Whakamarumaru.—Screen from the wind, sun, or rain. Signifies shade and protection from sun.

Whakarawa.—Fastener for a door (= *whakarawe*.) (*Ngatiporou*; also *Ngarauru* of Patea.)

Whakaruru.—Screen; shelter from wind; lit., to make calm.

Whakawai.—Jamb of doorway, or window opening.

Whana.—Upright sticks of a fence; battens.

Whao.—Nails; also *titi*, a peg. *Whao*, originally a small stone chisel; the transition to a large iron nail easy.

Whara.—Mat used as a carpet.

Whaririki.—Mat used as a carpet. Or *wharaki*.

Wharau.—Temporary sleeping shed; a canoe shed.

Whare.—A house.

Whare-matoro.—A large meeting house.

Wharepotae.—A house in which to mourn; a round-topped house.

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Whare-apiti.—Steep-roofed house.

Whare-kohanga.—A temporary shed in which women gave birth.

Whare-kohuku.—A kind of *wharau.*

Whare-kura, or red house; or *Whare-pu-rakau.*—Where the classes were held for instruction three months of the year, from sunset to midnight; a house for reciting ancient legends; a house with painted timbers.

Whare-maire.—A large ornamented, sacred house, in which was taught the history and learning of the tribe. Each canoe built one soon after arrival. The names and positions of many are known (= *whare-kura.*)

Whare-mato.—A house built for purposes of amusement (= *whare-ato, whare-matoro.* —A.H.M., 1-6.)

Whare-ngakau.—A house built in order to get up an expedition to avenge the death of someone; a condition of mind while planning revenge.

Whare-puni.—A closely-covered house for sleeping in.

Whare-rangi.—Store house built upon posts.

Whare-tatai.—Astronomical school.

Whare-tuturu.—House with a hipped roof; proper house, permanent home, as applied in opposition to a temporary house; a well-built house of any description.

Whare-umu.—Cooking house. Always *kauta* in Hokianga; *whare-umu* in Patea district.

Whare-wharau.—Shed, or booth of branches of trees.

Whata.—Stage on which food is kept; a store house for food built on piles.

Whatarangi.—Stage or platform on two or more posts.

Whatitoka.—Doorway.

Whatu.—The victim slain and buried at the foot of the *pou-tua-rongo* of a new house, or at foot of main posts in new *pa.*

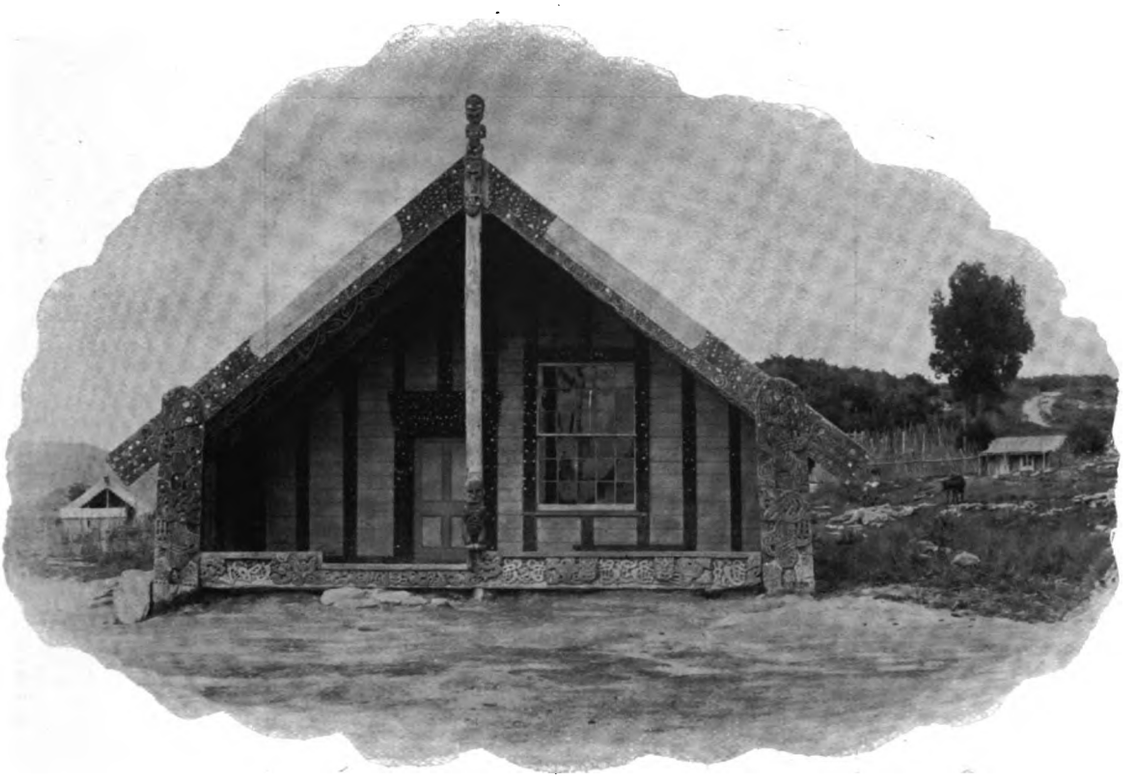
Whiuwhiu.—Layers of *toetoe* overlapping each other on the ridge of a house.

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Koruru, **or Carved Ornament from the Gable of a House.**

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Meeting House at Ohinemutu, Lake Rotorua.

This carved house was erected in 1878 as a token of the ratification of peace between the Arawa and the Waikato tribes, and to induce Tawhiao (the so-called Maori King) to pay the Arawa people a friendly visit. Petera te Pukuatua, and other Arawa chiefs, had already presented themselves to, and been welcomed by, Tawhiao at Te Kuiti. None of the carving is very old.

It is named after Tama-te-Kapua, the great ancestor of the Arawas.

The house measures 52ft. by 30ft. inside. The porch is 12ft.

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Carved Ornament for Gable of House *(Koruru* or *Parata.)*

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MAORI RAFTER PATTERNS.

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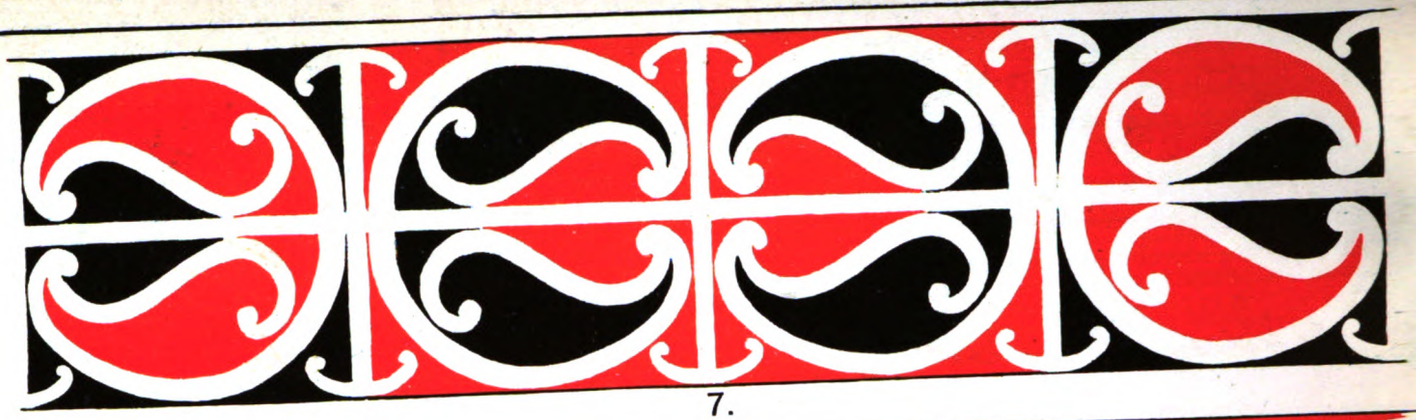
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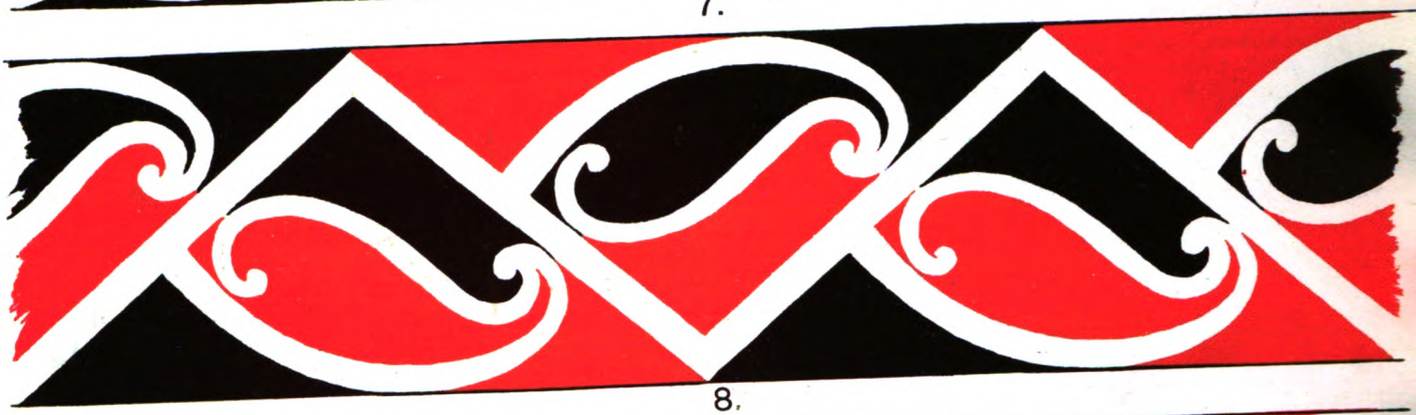
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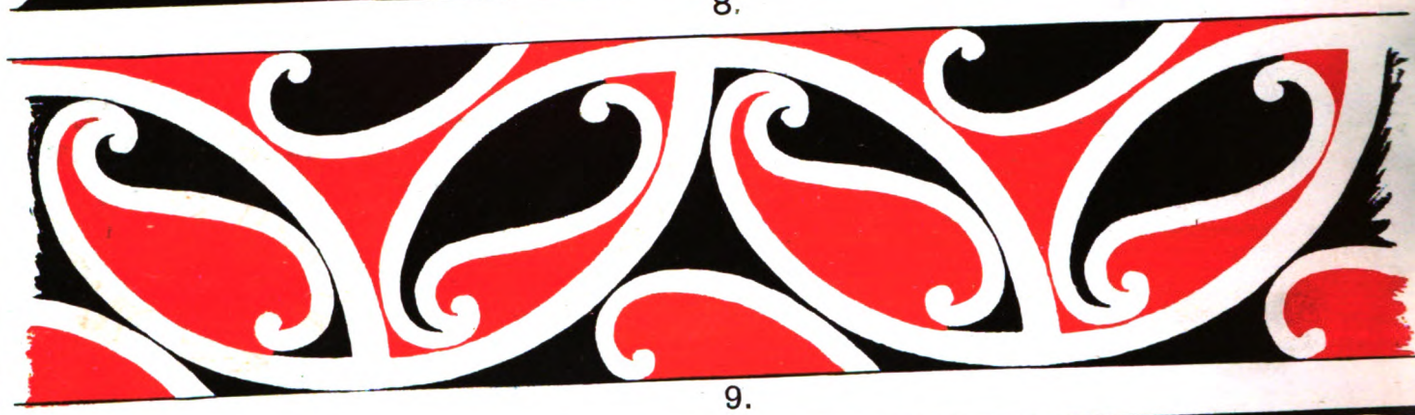
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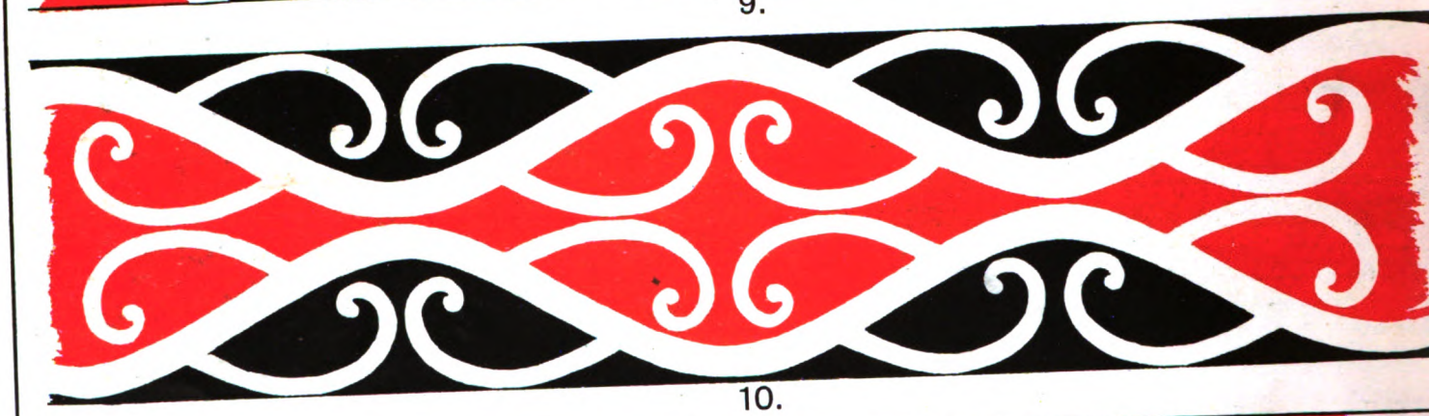
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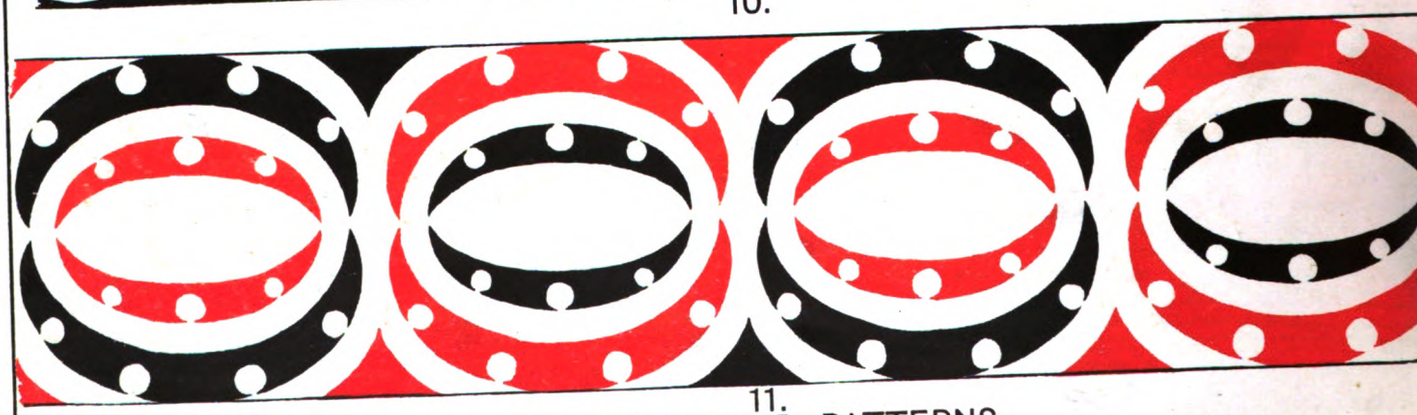
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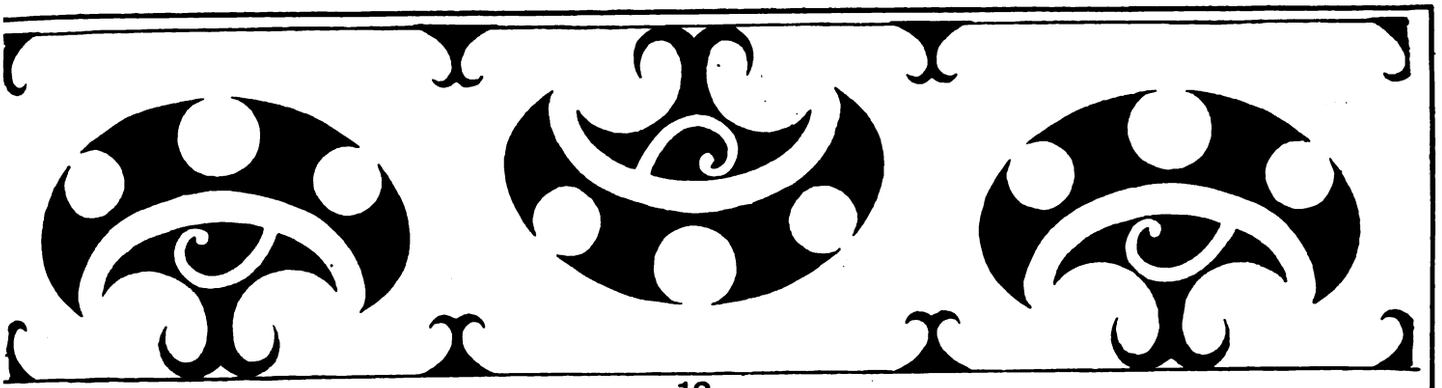
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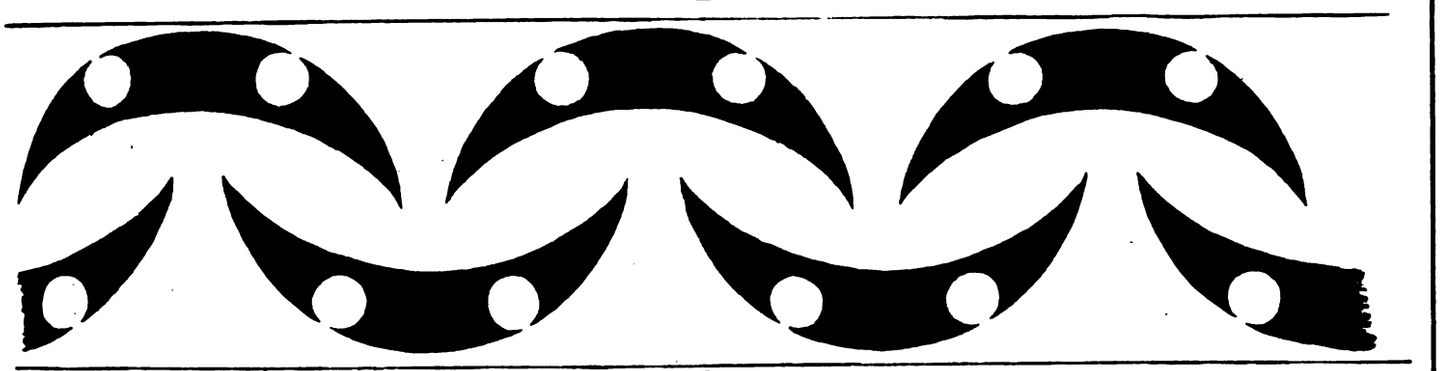
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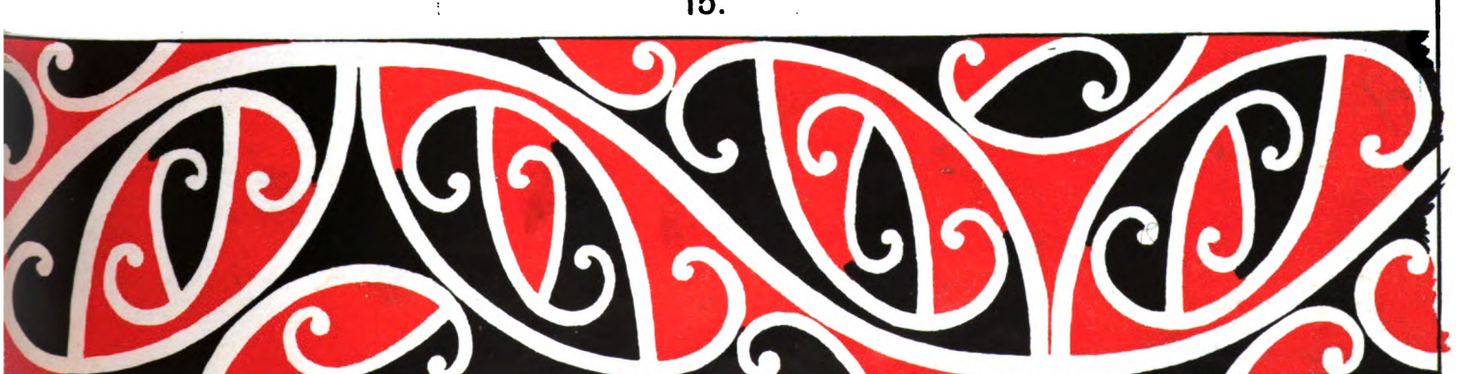
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MAORI RAFTER PATTERNS.

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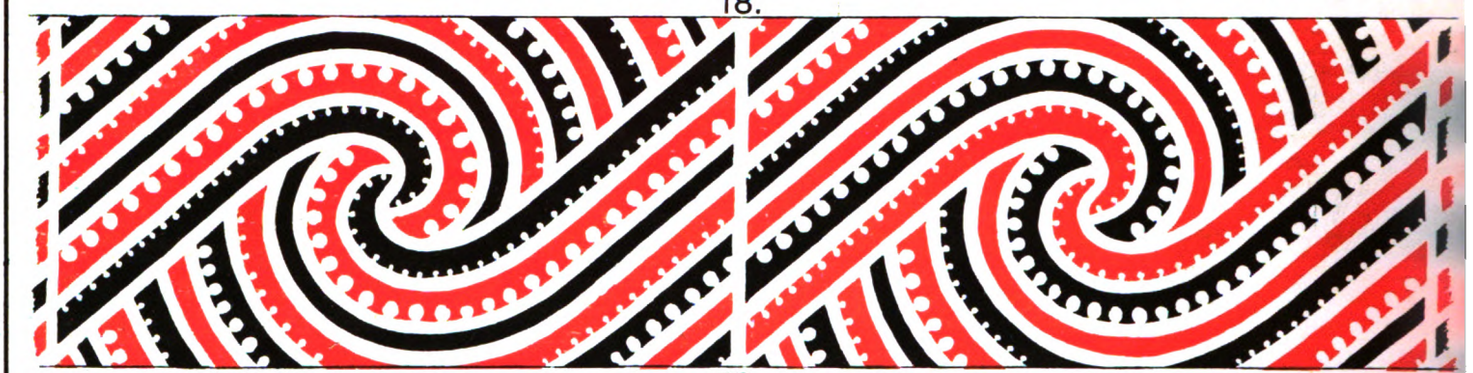
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17.



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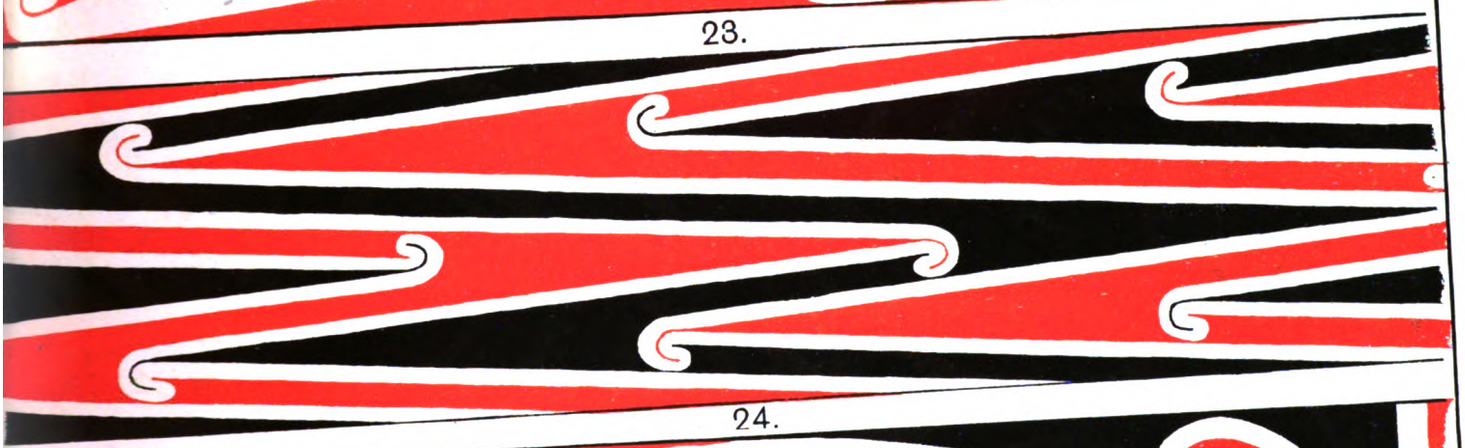
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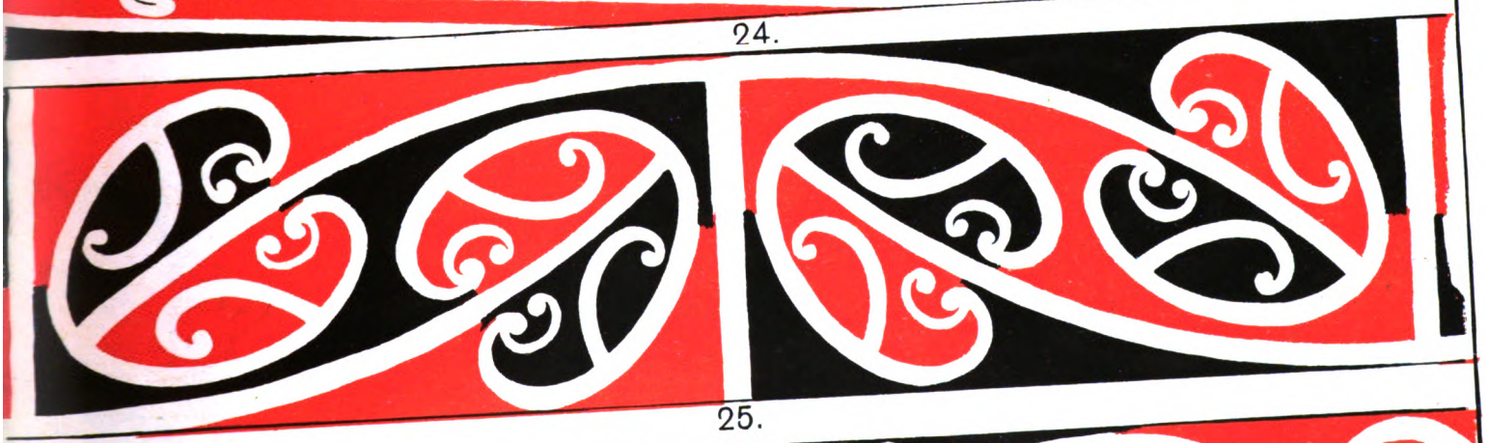
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27.



28.



29.

MAORI RAFTER PATTERNS.

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Korupe, **or Carved Board over the Doorway of a House.**

DESCRIPTION

. . OF . .

MAORI RAFTER PATTERNS.

THE elaborate patterns decorating the rafters *(heke)* of a large Maori house have never been recorded or described, and I am, therefore, pleased to be able to figure the collection of patterns now given in chromo-lithography, most of which are from the east and north of the North Island. They have been collected by the Rev. Herbert Williams, and I am indebted to him for the following descriptions. He says :—

"Any scientific discussion of that branch of Maori Art which comprised the decoration of the *whare* by painting is rendered extremely difficult, if not impossible, by the fact that none of the old school of painters are now living and little, if any, of their work has survived them.

"The Maori decorator does not copy—that is to say, he does not draw from a pattern, but carries the design as far as may be, in his head. To transfer the design to the material before him, he apparently forms a mental projection of it upon his board, and traces the outline, working in the colour afterwards. It may be dangerous to argue from the habits to be observed now, back to the custom of the ancient *tohunga* ; but certainly this method of producing a pattern does not at all accord with European notions. Instead of laying down the main elements of the

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pattern and working in the details later, some, at any rate, of the modern painters work as stated above; and the method produces certain results, of which traces appear in drawings made some years ago. For instance, in an outline sketch of a pattern made by a Maori for the writer, the bulk of the drawing was correctly done, as represented in No. 15; but in one place two elements of the projection had evidently undergone mental displacement, and there was nothing for it but to draw them where they could be got in. If colour had been filled in a new pattern would have been produced. Analagous to this is the defect which may be seen in almost any Maori *whare*—of patterns drawn too large for the slab. Instead of cramping the pattern to suit the material, the artist draws what he can, and omits the rest.* This is well illustrated in No. 1, and it seems more than probable that a gradual development in this way has evolved pattern No. 4 from No. 2. This supposition is further strengthened by two facts: First—No. 2 is drawn from a pattern in a *whare* at Kaiti, Gisborne, painted by Natanahira Te Keteiwi in the year 1850; it also appeared shorn of much of its boldness in the original Maori church at Manutukea, Te Arai, Poverty Bay, but is not now seen at all; whereas No. 4 is comparatively common throughout the Poverty Bay district. Secondly—No. 4 is sometimes drawn with the tops of the patterns close to, or even touching, the opposite edge. A somewhat similar evolution may be followed—of No. 5 from No. 18, through No. 26. The simple form in No. 18 is a natural one; this having been drawn too lean on some occasion was supplemented by the extra curves appearing in No. 26. The pattern taken was copied, and eventually modified further by the break in the sweep of the outer curve, as shown in No. 5.

"The *motif* of the pattern must in general have been some natural object. The circinate fern fronds or *pitau* are acknowledged in the beautiful carved scrolls on the *rapa* of the war canoe, and pattern No. 1 is said to be called *Pitau a Manaia*. The flower of the *Kowhai ngutukaka (Clianthus puniceus)* is obvious in Nos. 7, 8, 9, which, by the way, come from the Wairoa district and Ohinemutu, the characteristic reversed curve—as also that in No. 26—being foreign to Ngatiporou ideas. No. 10 is said to be a conventionalized *patiki*, or flatfish; while No. 3 represents the *mangopare*, or hammer-headed shark. The commonest pattern with Ngatiporou is No. 15, which is known as *Rautawa* (*tawa* leaf).

* It is perhaps in this way that we may account for the careless way in which the Maori workman will terminate a handsomely carved slab.

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"The ancient *tohunga*, without doubt, abhorred the straight line when considering ornament. With the exception of No. 24, all the patterns figured here originally consisted solely of curves. The introduction of straight cross-lines and mid-ribs is a modern invention. For instance, the *mangopare* No. 3 was originally so drawn, but is now almost invariably represented as in No. 29. The variant form *mangotipi* No. 6 was probably similar originally, but the writer has not been successful in finding a genuine old specimen. No. 28, which it is supposed represents the waves of the sea, most probably occupied the whole board with one curve, and had no dividing mid-rib, but the form figured was copied from a *whare* painted by an artist who had a distinct leaning to the habit of reciprocating his patterns across a dividing centre line. The one exception—No. 23—is an Arawa pattern, and appears in the large house at Ohinemutu. It forms an exception also to the rule that the pattern takes no account of the limits of its ground. In no other case which has come under the writer's notice has a pattern any definite beginning or ending.

"The pigments used in these decorations were mainly soot and red ochre (*kōkowai*), the white being the self-coloured timber; but it is said that the Ngati-porou in the Waiapu district sometimes added a blue-grey, produced by a slimy clay known as *tutaewhetu*. The colours were arranged to the taste of the artist; as a rule, rather avoiding a set formation. The regularity of modern *whares* (*e.g.*—the magnificent *Porourangi* of the the late Major Ropata) is not at all in keeping with the ancient traditions of the art. In the better paintings, the colour was not laid on flat, but in finely embattled lines as on the rafters seen in Fig. 1, Pl. XIII., which followed the main curves of the pattern. But this was not considered appropriate to No. 23 and its companion, No. 24, which were, according to strict rules, represented in plain black and white.

"It is not, in every case, quite easy to decide whether the white or the colour represents the pattern. Without doubt the former is the case in Nos. 3, 5, 6; and as undoubtedly the latter in Nos. 11—14. But in Nos. 1, 2, 4, we have a more complicated structure in which the effect is produced by the happy arrangement and contrast; in one part the colour, in another the white, seeming to represent the theme of the design.

"The names of some of the patterns have already been mentioned, and subjoined

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are those of others which are known. But in many cases these must be accepted provisionally, as the innate desire of the Maori to please will often produce a name which has no sanction in antiquity.

"In conclusion, the great difficulty in obtaining any accurate information, or indeed genuine patterns, lies in the fact that the modern designer, as a rule, thinks himself as good as, or better than, his predecessor. There has, of late years, been a revival among the Ngatiporou, and the blues and greens, which had been coming into fashion, have given way, in the finer houses, to the old-established red and black. But the artist, having no copy, can only reproduce what he remembers of the old patterns, or put in something of his own. The difficulty of carrying a complicated design, such as No. 1, in the mind, has led to the gradual disappearance of all the finer patterns; while those that remain are too often adulterated with diamonds, clubs, and other glaring signs of contact with the *pakeha*. As a rule, too, the Maori artist is singularly ignorant of his subject, and has positively no idea of producing a new pattern which will be in keeping with his ancient exemplaries.

"No. 2 is said to be *puhoro*, a name also applied to Nos. 23 and 24.

"A variant name for No. 3, or rather for its modern form, No. 29, is *Ngoru*.

"No. 4.—*Kowhaiwhai kape rua*.*

"No. 5.—*Ngutukura*.

"No. 15.—*Rauru*.

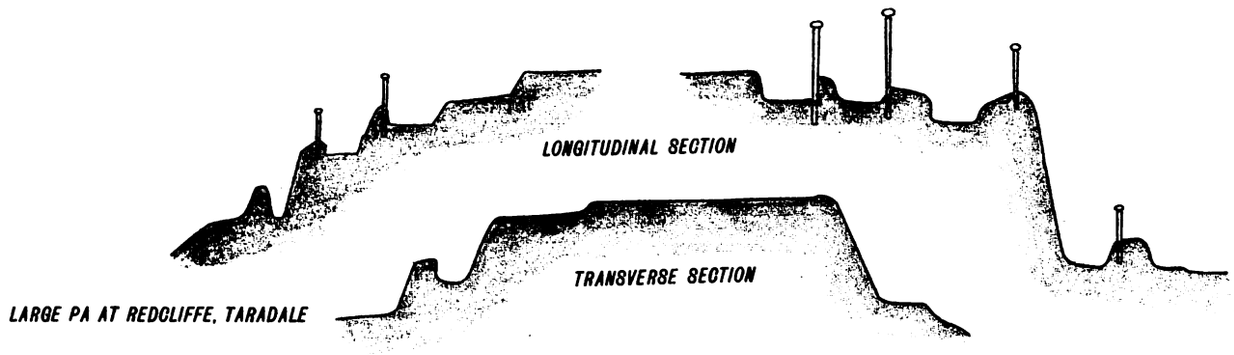
"No. 16.—*Koiri*.

"Nos. 13 and 14.—*Ngutukaka*."

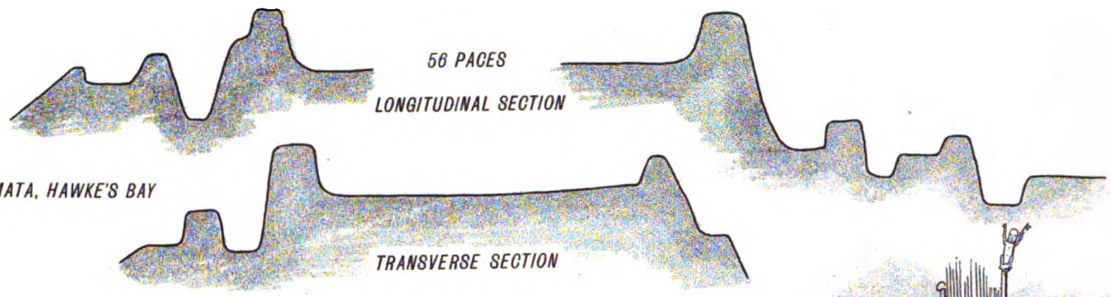
* In reply to the question, "Was there a *Kowhaiwhai kape tahi?*" the Maori artist will say he supposes so, but has no idea what it was like.

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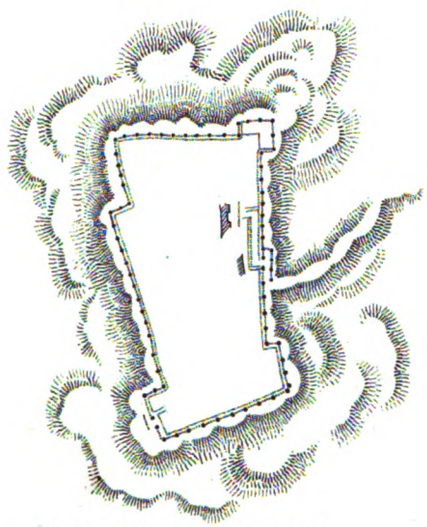
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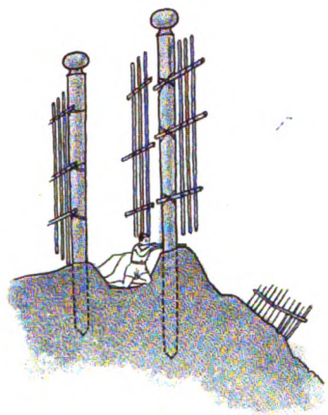
LARGE PA AT REDCLIFFE, TARADALE



PA AT KAIMATA, HAWKE'S BAY



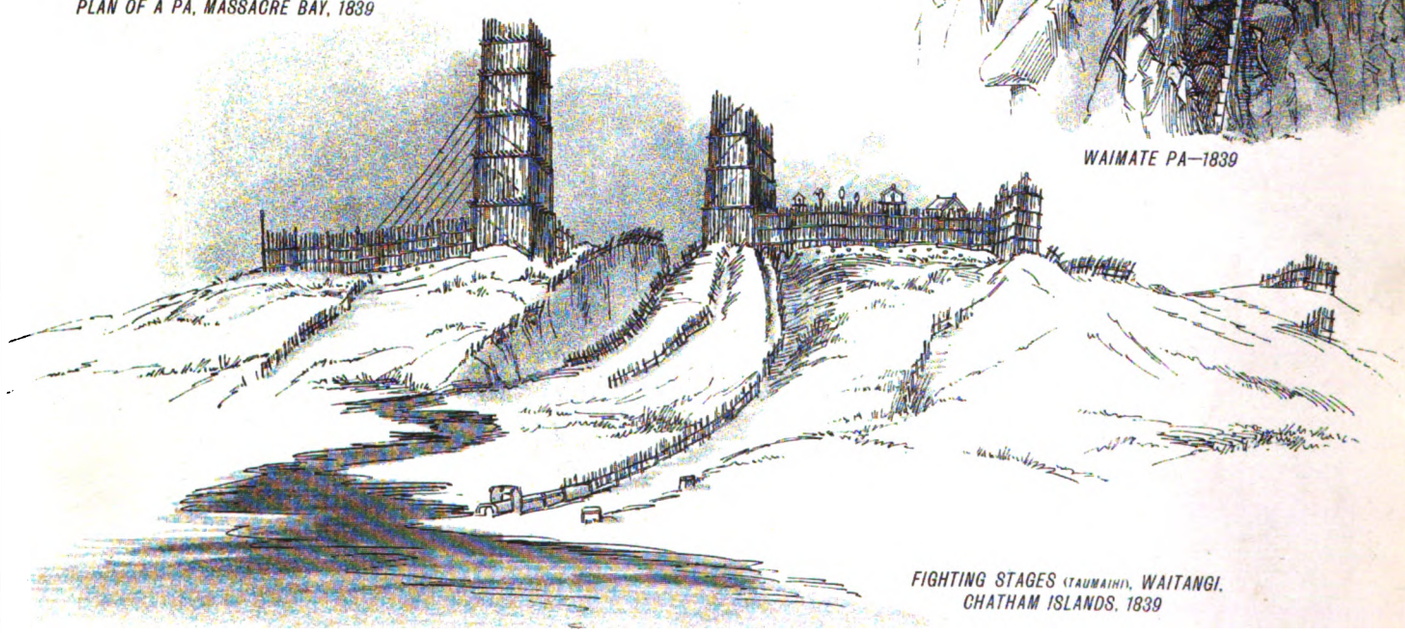
PLAN OF A PA, MASSACRE BAY, 1839



SECTION OF WALLS NEAR A GATEWAY



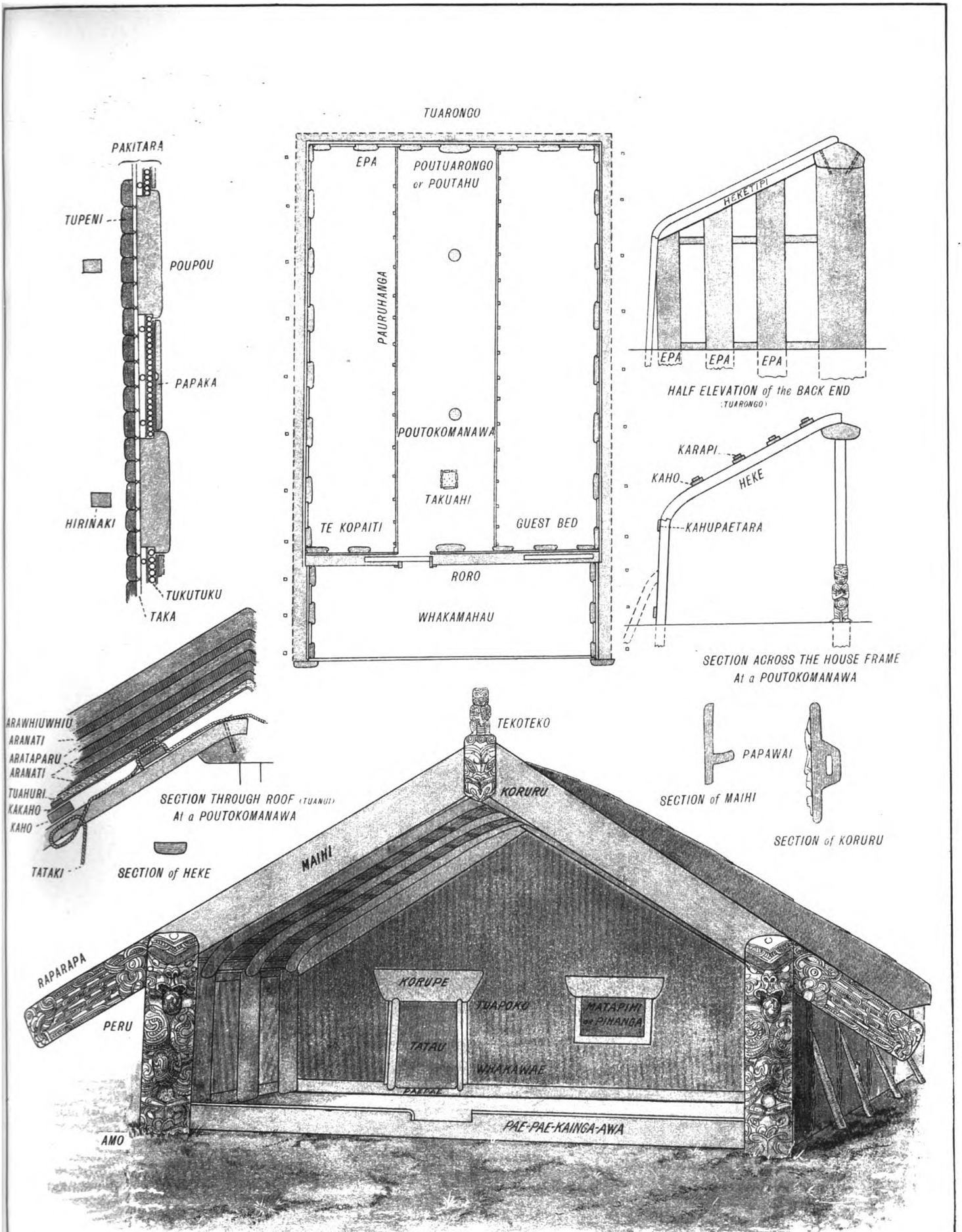
WAIMATE PA—1839



FIGHTING STAGES (TAUMAIHI), WAITANGI, CHATHAM ISLANDS, 1839

SECTIONS AND SKETCHES OF MAORI PAS.

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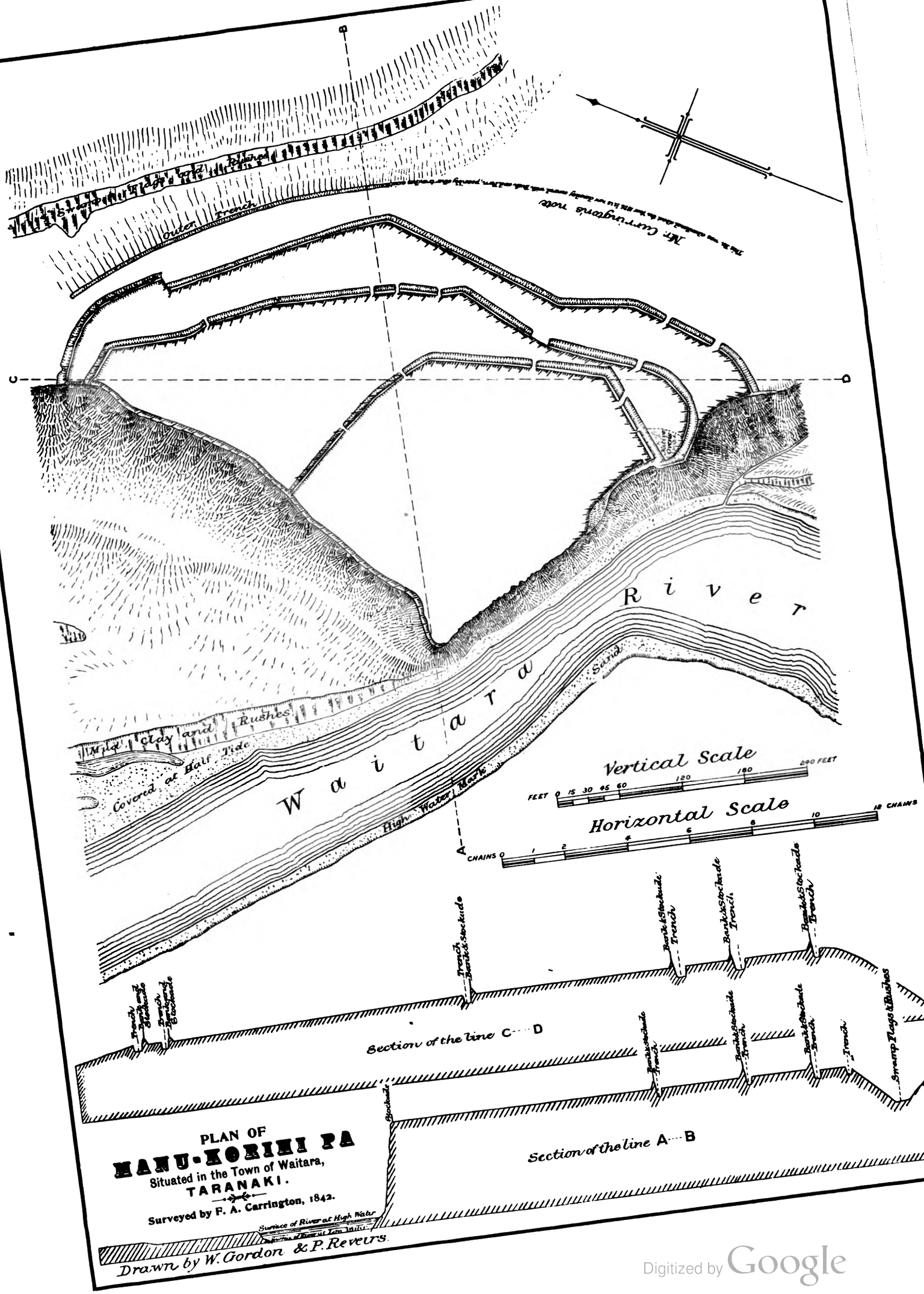


DIAGRAMS OF THE PARTS OF A MAORI HOUSE.

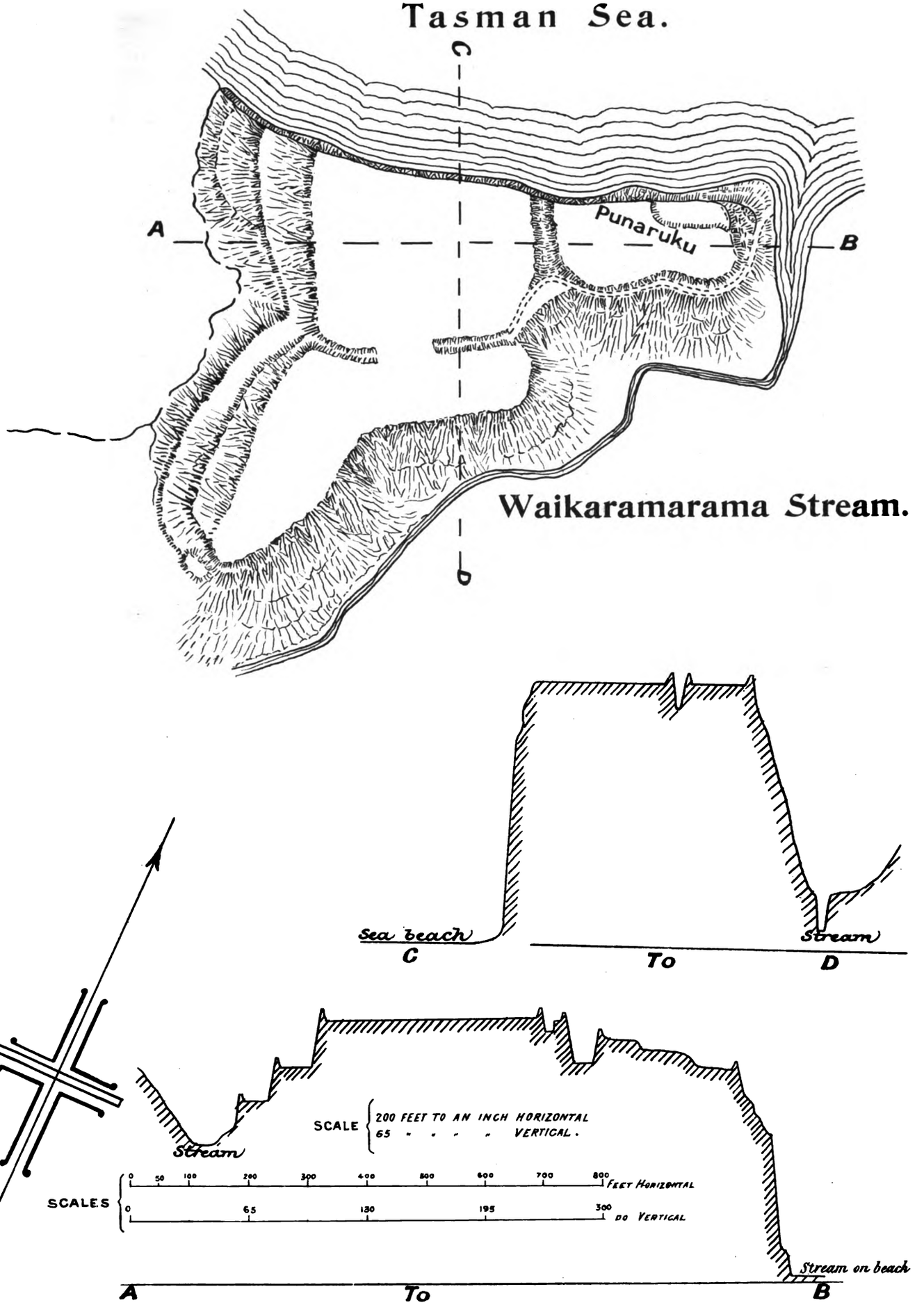
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PLANS AND SECTIONS OF PUKEARUHE PA.

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A *Korupe*, or Carved Ornament, from a Doorway. Taranaki, West Coast of North Island.
Canterbury Museum.

DESCRIPTION OF THE LITHOGRAPHIC PLATES.

PART II.

PLATE 1.

Diagrams of the Construction of a Maori House.

Reference to the description given on page 81 will, probably, render any further explanation of the plate unnecessary. None of the details are to an actual scale. It will probably be found that the various parts are known by other names in other parts of New Zealand; the names on the diagrams applying more particularly to the district between the East Cape and the northern end of Hawke's Bay. Further information on this subject is given in a paper in a recent number of the "Polynesian Journal," by A. T. Ngata.* Scattered through the literature of the subject there are notices of buildings of an exceptional character. Savage, who was one of the early visitors to New Zealand, saw at the Bay of Islands, near the residence of a chief, an edifice every way similar to a dove-cote, standing upon a single post, and not larger than dove-cotes usually are. In this, Tippeehee (Te Pehi), confined one of his daughters for several years; "we understood," he says, "that she had fallen in love with a person of inferior condition, and that these means were adopted to prevent her bringing disgrace upon her family. The space allotted to her would neither allow of her standing up nor stretching at her length.† I could not find that she was allowed any other accommodation."

* A. T. Ngata, "Notes on the Rev. H. W. Williams' Paper on 'The Whare Maori,'" Journ. Pol. Soc., Vol vi., p. 85.
† Savage, "Account of New Zealand, 1807," p. 14.

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Nicholas, who was at the Thames a few years later, saw a curious circular hut elevated on posts, and guarded by a neat fence, in a fine plantation of potatoes, probably intended for a storehouse. The roof projected about 3ft. from the sides. He also notices a huge shed, nearly 100ft. long, with a partition running through the middle of it. It appeared to be only used at that time as a shelter for the pigs owned by the natives of the village.*

PLATE 2.

Plans and Sections of Fortified Pas.

Fig. 1.—Section of a large *pa* at Taradale, Hawke's Bay. The sketch section of the ditches and banks (*maioro*) show the strength of the defensive works; such was the extent of the *pa* that a very large number of men must have been required to repel a large attacking force. This *pa* is only one of many visible from this place. It is situated on a high spur above the river, and covers several acres. I have a sketch made by the Rev. W. Colenso in 1838 of a *pa* in the Waiapu Valley, called Whakawiti-ra, near Roto-Kautuku, with its palisade of huge tree trunks, with carved figures on the top rising from the river bank. He tells me that he paced a whole mile along the outside river fence of this *pa*. The Ngati-Porou, in their tales, say that "this *pa* was so large that a child might be born at one end and grow up to manhood, and yet be quite unknown to the people living at the other end." Mr. Elsdon Best mentions† a similar case near Rua-toki, Whakatane (Moho-aonui, a *pa* of Maruiwi). "Such were the works of old!" I have seen the remains of an old *pa* at Waikanae, called Te Uruhi, the fence of which has been a mile in circumference.‡ Several interesting papers have been written describing ancient earthworks in the northern part of the South Island of New Zealand, and a large number of pits, terraces, and traces of ancient cultivations covering large areas have been discovered.§ These earthworks do not, however, seem to have been for defensive purposes like those forming the citadels of the Northern tribes. Wakefield mentions seeing the remains of a large *pa* covering 10 or 15 acres near where the "Pelorus" anchored, in a bay on the east side of the Sound, now known as Pelorus Sound.‖

* Nicholas, "Narrative of a Voyage to N.Z., 1817," Vol. i., pp. 401 and 405.
† Elsdon Best, "In Ancient Maoriland," 1896, p. 38.
‡ Wakefield, "Adventures in N.Z.," p. 123.
§ J. Rutland, "Traces of Ancient Human Occupation in the Pelorus District," Journ. Pol. Soc., Vol. iii., p. 220; and also "On the Ancient Pit Dwellings of the Pelorus District," Journ. Pol. Soc., Vol. vi., p. 77.
‖ Wakefield, "Adventures in N.Z., 1845," p. 56.

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Fig. 2.—Sections of a strong *pa* near Petane, in Hawke's Bay.

Diagram of the earthworks of a hill fort, or *pa*, at Kaimata, near Napier. It is situated on the end of a spur, with a precipitous descent to the river bed, and must have been almost impregnable. It is in the immediate vicinity of good eel swamps, and sea and river fishing. The districts in which the greatest number of old *pas* are to be found are—Taranaki, the Auckland Isthmus, Whakatane, and Opotiki, all places celebrated for the excellence of their soil, and where, consequently, the food plants cultivated by the Maoris could be easily and advantageously grown. Eel swamps and good fishing grounds also influenced the position of settlements.

Fig. 3.—Plan of a *pa*, Massacre Bay, 1839. The stockade of this *pa* was double, an inner line of palisades standing a foot or fifteen inches from the outer wall, which was formed by large posts being planted deep in the ground every eight feet. Horizontal pieces were lashed to these, the first about three feet from the ground, the second at, say, seven feet, and the third at ten feet. Stakes of split wood were fastened to these perpendicularly, the lower ends remaining a foot above the ground, to enable the defenders to fire under. These upright pieces were lashed with tough vines to the horizontal pieces. Inside of this was a second wall of palisades, made in the same manner, and near doors, or weak places, a third line of wall. A shell or cannon ball striking the fence made a hole only its own size, and which could quickly be repaired. The walls were flanked at the angles. Doorways were blinded outside, and flanked, and the passage from them into the *pa* commanded by traverses of palisades and rifle pits.

Fig. 4.—Section of part of the fence, showing the modification made by the natives to adapt the old style of palisade, in which all the posts were planted in the ground, to the requirements of the new weapon. When erecting a new *pa* in war time, some of the larger posts of the stockade were named after the chiefs of the hostile tribe. The party then building the *pa* fired volleys of shots at these posts by way of expressing the deadly nature of their hatred. This form of insult was called a *tapa-papa* or *tukutuku*.*

Fig. 5.—Sketch of Waimate *Pa*, 1839. One of the sketches, published by Major Heaphy, of a fortified *pa* perched on a commanding rock, to ascend which it is necessary to use notched poles, which, of course, could be withdrawn in case of an attack.

* Shortland, "Southern District of N.Z.," p. 26.

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Fig. 6.—Fighting stages at the Chatham Islands, 1839. This sketch, reproduced from a lithographed sketch by Major Heaphy, is the only one that I can find of fighting stages, *taumaihi*, or towers, although, in the olden times, the Maoris used frequently to have stages, *porawa*, somewhat like balconies, overhanging the main fence of the *pa*, from which they could hurl stones or throw spears at their assailants; and in the *pas* built during the three Maori wars with the Europeans, elevated stages were used by sharpshooters either on the fence or in trees in or near the *pa*. The stages shown in the sketch were built at Waitangi, Chatham Islands, by Maoris who had migrated thither and then quarrelled amongst themselves, after nearly exterminating the Morioris, or original inhabitants of the Islands. The *pa* with the higher tower was built in order to besiege the people in the middle *pa*. Each story or stage of the tower was from ten to twelve feet in height, and from the summit, the assailants fired down into the besieged place. The besieged built a tower also, but from lack of material, its dimensions were inferior to the other. There were no earthworks to speak of, probably on account of the nature of the hill, which was chiefly of sand. Covered ways led down from the *pa* to the water's edge. At night the besieged could obtain fresh water by means of the covered way. The little storehouses, seen in this and all old sketches elevated on high poles inside the *pa*, were for storing roots reserved for seed, or for the safe custody of any valuable property.

PLATE 3.

Manukorihi *Pa* ("The Singing Bird.")

(From a Survey made in 1842 by F. A. CARRINGTON, Esq.)

Manukorihi *pa* is situated on the north bank of the Waitara River, adjoining the town of Waitara, Taranaki. This *pa* was the principal stronghold of the Manukorihi *hapu* of the Ati-Awa tribe. The first expedition of the Nga Puhi and Ngati-Whatua into Taranaki, led by Murupaenga and Tuwhari, were received and welcomed into the *pa*; and the people of this and adjoining *pas* joined these *tauas* in their invasions of Taranaki proper. This *pa* was the home of the ancestors of Wi Kingi, the leader of the first Taranaki War (1860-61) against the Europeans. The *pa* was deserted about 1826, when its people migrated south to Kapiti to escape the inroads of the Waikatos from the north.

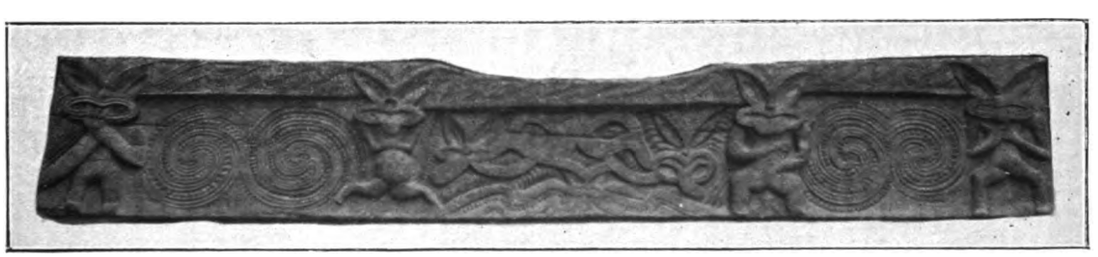
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PLATE 4.

Pukearuhe *Pa.*

(From a Survey by W. H. SKINNER, Esq.)

This *pa* is situated on the West Coast of the North Island, 35 miles north of New Plymouth, and is built on sea-cliffs 150ft. high. The Kawau *Pa* on the north and Pukearuhe on the south were the keys of the Ngati-tama country. The Ngati-tama, although a distinct tribe, were so intermarried with the different *hapus* of Ati-Awa to the south that they were practically for all purposes of offence and defence members of the great Ati-Awa tribe; so that, unlike the Kawau to the north, this *pa* was not subjected to the constant attacks of their great enemy, Ngati-maniapoto, who joined them on their northern boundary. Pukearuhe commands still (as it has done for generations) the only path or road leading from the north into the fertile districts of the north and middle Taranaki; and it was through this *pa* that the first Nga-Puhi expeditions into Taranaki proper came. Owing to distant relationship these people were allowed to pass through unmolested. On the death of Tupoki and Raparapa, the great fighting chiefs of the Ngati-tama, whose home was the Kawau, twelve miles to the north, Ngati-tama became disorganised, and, throwing in its lot with Rauparaha and his people, abandoned their ancestral homes, and migrated to what is now Wellington and Nelson districts. In later times (1865) Pukearuhe was occupied as the outpost of the military in our war with the Maoris. It was a position of great danger, and, during the early occupation, the garrison were subjected to constant alarms from the enemy to the north. In February, 1869, the Rev. John Whitely, Capt. Gascoigne, his wife and family, and two other Europeans were cruelly murdered here by a *taua* from the Waikato. These plans have been kindly furnished, specially for this work, by the Survey Department.



***Paepae* from the front of a *Whata* near Otaki. Wanganui Museum.**

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A *Papaka*, or Skirting Board.

A small carved slab between the large panels which form the side of a house. A bold piece of work, agreeing well with the character of the massive carvings of the Maori house in the Colonial Museum at Wellington. This is one of the series forming the skirting board of the wall, all of which are entirely different in pattern.

Size: 10 inches by 8 inches.

Colonial Museum, Wellington.

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Carved Ornaments for Doorways *(Pare* or *Korupe.)*

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Carved Ornament for Gable of House (*Koruru* or *Parata.*)

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PLATES.

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Fig. 1.

An ordinary Maori House, or *Whare.*

A *whare*, or house for ordinary occasions, showing the very low doorway, and the extremely small aperture for the window. It is entirely without ornament, and constructed of small poles and slender sticks lashed together with flax. Such a shelter was easily and quickly built, generally, as in this case, in some sheltered situation. At page 72, a quotation is given from Cook's description of some native houses, in which he says: "The walls and roof consisted of hay." This, of course, should be of the *wiwi* rush, which is extensively used for the poorer class of house.

Fig. 2.

A *Rua*, or Storehouse for Provisions.

An underground storehouse for root-crops, called a *rua*. The door panel has slipped to the bottom of the store, showing the depth to which it has been excavated from the side of the hill. Over the door is a small piece of carved wood. They vary in size, but are never very large. The one figured is at Te Horo, near the East Cape.

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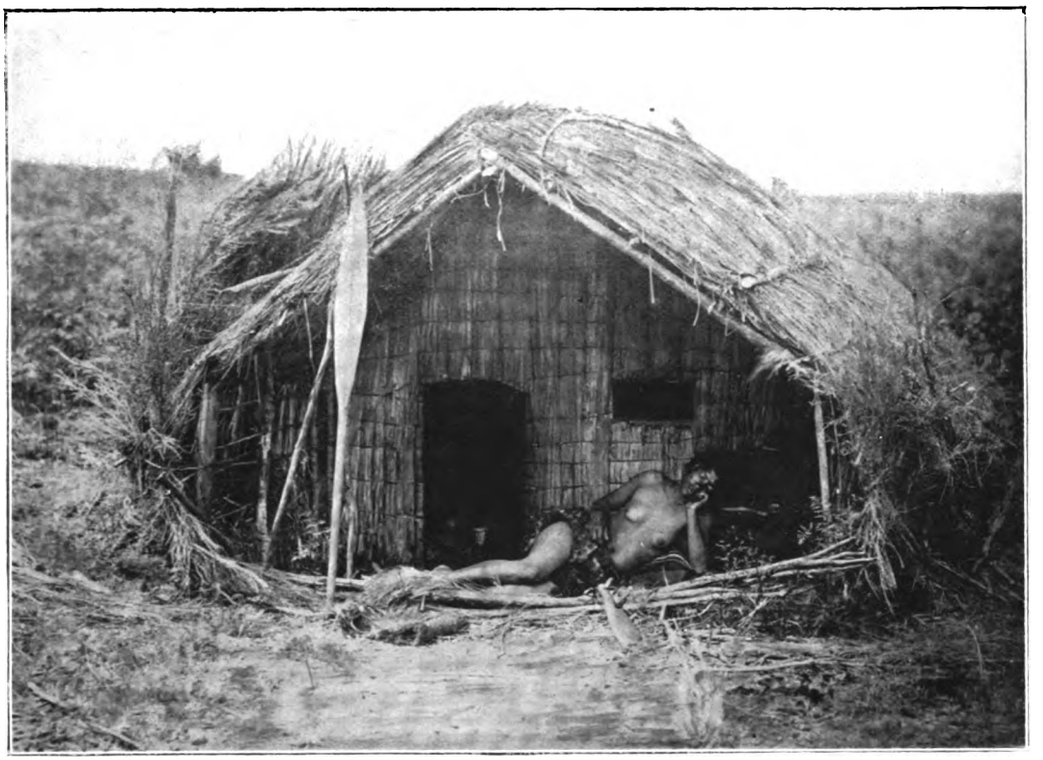


Fig. 1.



Fig. 2.

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Fig. 1.

Large Maori House at Poverty Bay.

A large Maori house of modern date, differing from the older forms in the greater height of the carved doorway, and the much greater aperture of the window. It is said that formerly there was no supporting post at the front apex of the gable, but it is present in most of the existing specimens. It is shown in a plan published in the "Atlas to the Voyage de la 'Coquille' in 1826,"* as well as in many of the early sketches, so that, possibly, the want of it was a local peculiarity. The general appearance of the house is somewhat spoiled by the modern costume of some of the natives, but it is difficult to get photographs satisfactory from all points of view.

Fig. 2.

Carved House at the Thames, Auckland.

This beautiful specimen of a *whare-whakairo*, or carved house, is called *Hotunui*, after a great ancestor who lived about 10 generations ago. It was erected in 1878, after a large number of men of four divisions of the Ngati-awa had been employed upon the preparation of the carvings for three years. The *paepae-waho*, or threshold, of the porch, is called *ruamano*. When the builders were returning to their own settlement they would not accept payment, beyond the food and presents they had received from time to time during the building. Taipari felt ill at ease about this, saying that "the Ngati-Maru had not sustained their ancient name for generosity," so he sent his daughter-in-law quickly by land to Tauranga to meet the builders on their return home by sea. She met them on their arrival, and said, "'Behold, I have brought you a *koha* (gift) from your grandparent, Hotereni Taipari.' One thousand pounds in single bank notes did I give them, and the Ngati-awa went on their way rejoicing."

[Full particulars of the building of this house, and of the details of the carving, will be published in the Volume of the "Transactions N.Z. Institute" for 1897, Captain Mair having obtained the information from the widow of the late chief, W. Hotereni Taipari.]

The length of the house is 80ft, the width 33ft, height 24ft., length of porch 12ft.

* "Voyage de la 'Coquille' Atlas," pl. 41.

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Fig. 1.

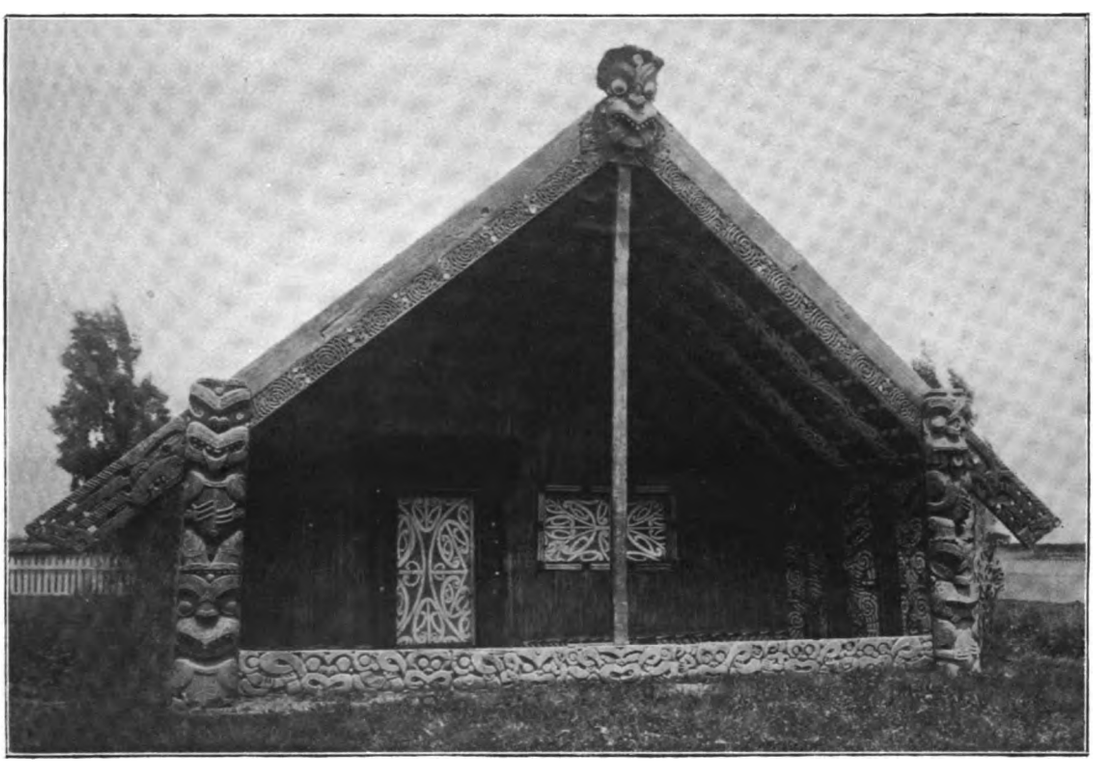


Fig. 2.

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Fig. 1.

Part of the Verandah, or Porch, of the large House of the Ngati-Porou, at Wai-o-Matatini, East Cape.

The wall and part of the roof of the large house at Wai-o-Matatini. The side walls of the verandah, or *whakamahau*, are lined between the carved *poupous* with lath work, *tukutuku*, of a step pattern, called *poutama*. Between the *poupous* at the bottom of the *tukutuku* work are the *papakas*, or skirting boards. The *hekes*, or large rafters, are painted with different patterns in white, red, and black. The cross rafters, *kaho*, have three ornamental stripes of white paint, representing, decoratively, the lashings of flax formerly used. Behind these are the reeds of the *toetoe* grass. The front wall of the house is faced with *toetoe* reeds placed vertically, and at intervals the reeds are smoked with a dark pattern; transverse lashings of flax, at alternate intervals, add to the decorative effect.

Fig. 2.

Interior of House at Wai-o-Matatini.

Three of the *tukutuku* panels in the interior of the same house. Here the simplicity of the patterns of the olden time has been departed from, and modern ideas have crept in, especially in the introduction of the name of one of the ancestors represented in the central lath panel. The finish and execution of the work, however, are good. Each panel is finished on the top with a batten wrapped with variously coloured strips of flax leaf. The name of the house is Porou-rangi.

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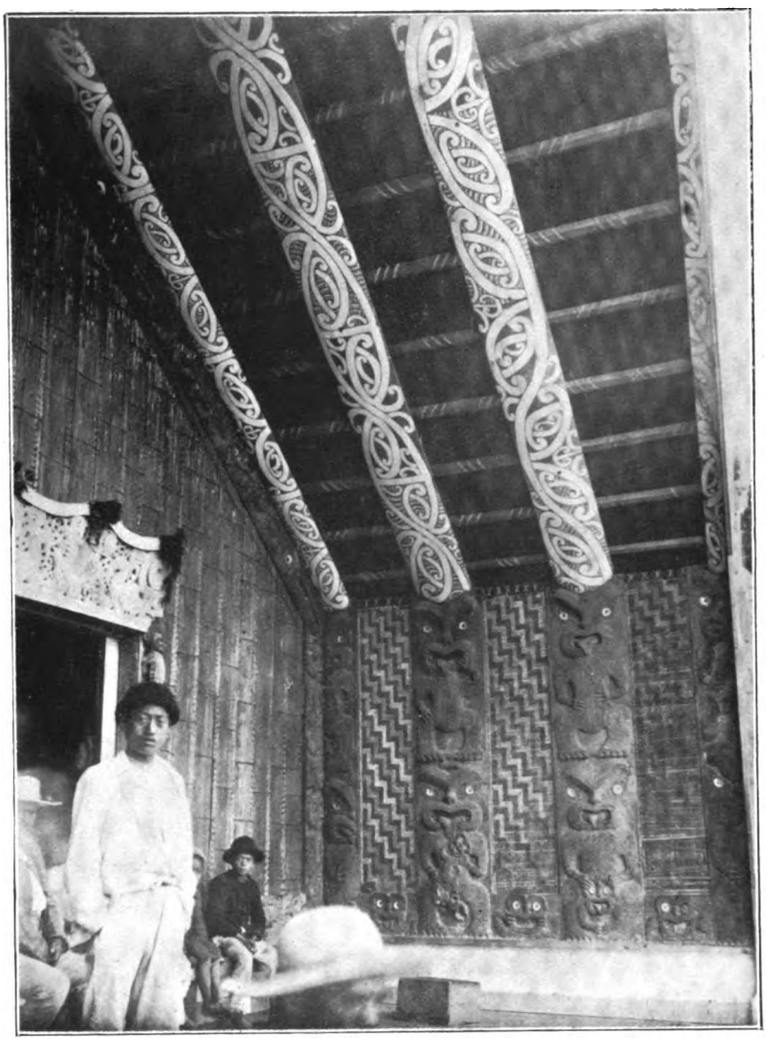


Fig. 1.

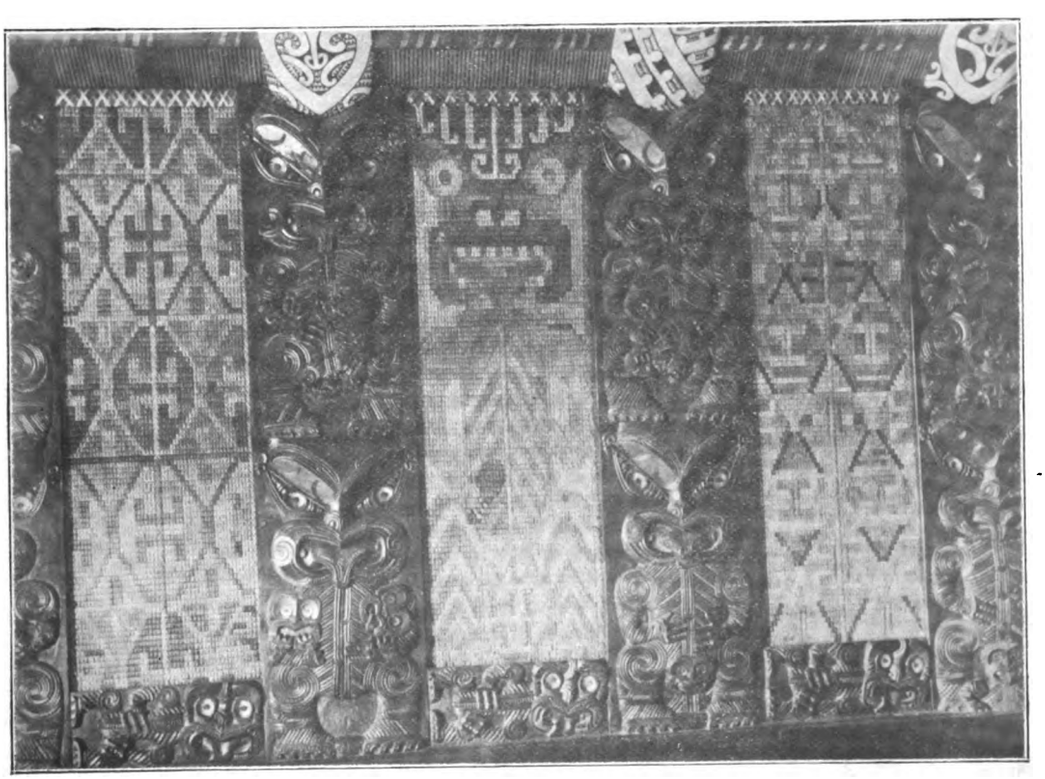


Fig. 2.

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Fig. 1.

Large Carved Storehouse in the Auckland Museum.

This beautiful specimen of a carved storehouse is now in the Auckland Museum. It was the property of Te Pokiha Taranui, the leading chief of the Ngati Pikiao Tribe, a section of the Arawa. Te Pokiha is better known by his European title of Major Fox, he having commanded a portion of the Arawa contingent during the chase after Te Kooti. The house stood at Maketu, about eighteen miles south of Tauranga, and was built about 1868. It belongs to the class of carved houses known as *pataka*, or storehouses. These are raised on legs, and have the whole of their carvings and other ornamentation on the outside, thus differing from the *runanga*, or meeting-houses, in which it is the interior which is carved and decorated. The house is, without doubt, the finest and most complete of its class in existence. The house is about 35ft. long by about 20ft. broad, and has a height of 15ft. to the crown of the roof. The sides and both ends are formed of upright totara slabs, boldly and elaborately carved, the carvings being mainly grotesque representations of the human figure. The ridge-boards are carved to represent a number of *ngarara*, or lizards, running along the roof, and the *maihi*, or gable-boards, have carvings of the mythological animal known as *manaia*—probably a kind of *taniwha*. In front of the house is a carved verandah, some 5ft. or 6ft. deep, and it is on the walls of this that the most elaborate carvings in the house are placed, many of the slabs representing well-known ancestors of the Ngati Pikiao Tribe. The large carved figure over the doorway stands for Tama te Kapua, the captain of the "Arawa" canoe, which was finally beached at Maketu after its adventurous voyage from Hawaiki to New Zealand The *tekoteko* on the roof above is Takenga, one of the descendants of Tama te Kapua, and a remote ancestor of Pokiha; another *tekoteko* is Awanui, a son of Takenga; and so on. The chief figures on the house are intended to illustrate Pokiha's genealogy. The house itself bears two names—one being *Tuhua Katoore*, the signification of which is "the pit of the *taniwha*"; the other *Puawai o te Arawa*, or "The flower of the Arawa." As already mentioned, Maketu was the landing-place of the famed Arawa canoe; and a clump of *mingi-mingi* trees, old and hoary, and evidently of great antiquity, is still pointed out as having sprung from the skids which were used in hauling up the canoe on the beach.

Fig. 2.

The Horizontal Board in the Front of a Carved Storehouse.

A fine piece of old workmanship which formed part of a carved storehouse, or *pataka*. It represents the usual conventional figures of human beings, alternated with the bird-headed *manaias*. As is not unusual, the artist has been unable to find room for the full development of the heads of the figures. This carving has been recently acquired for the Auckland Museum, and came from the neighbourhood of the East Cape.

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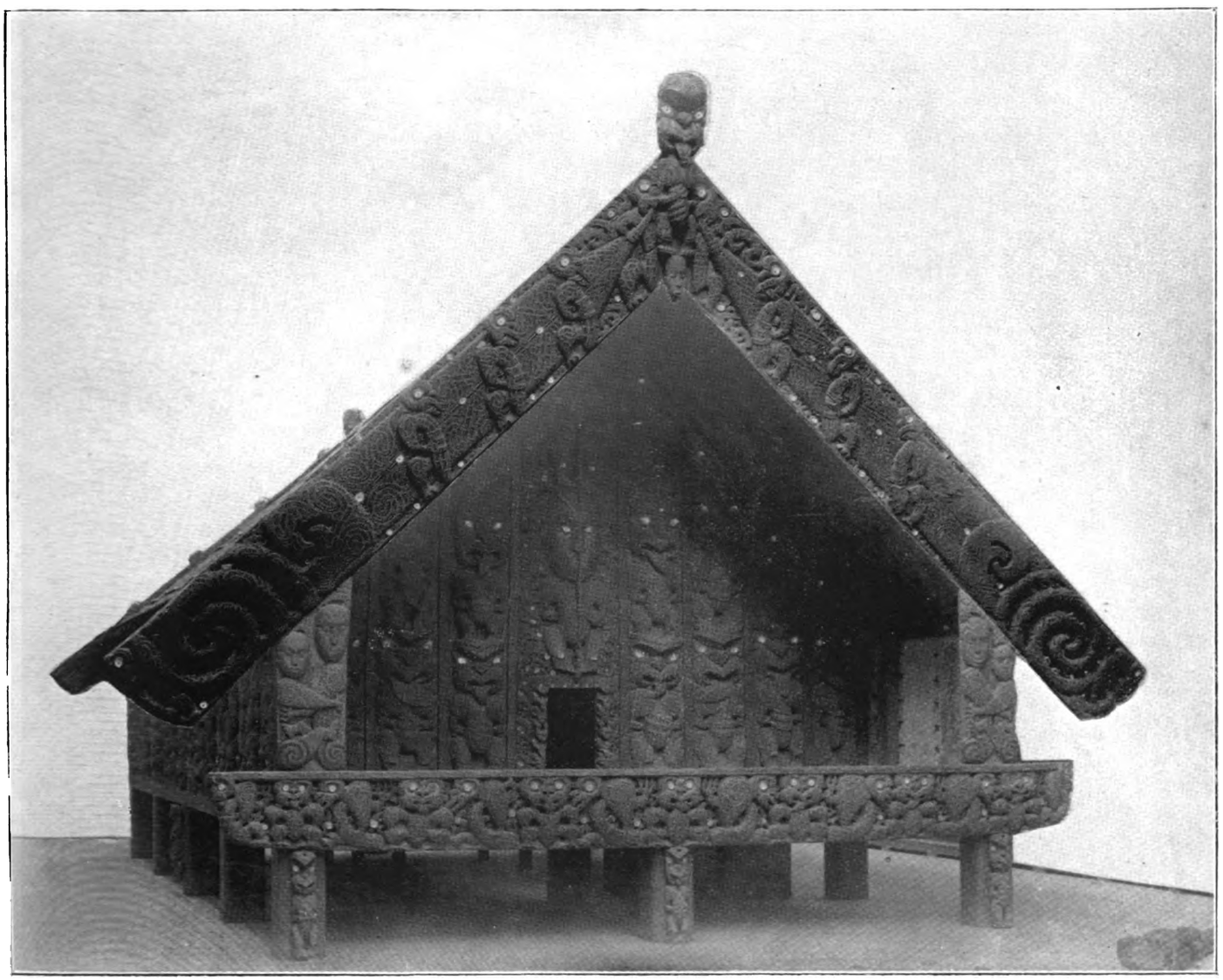


Fig. 1.

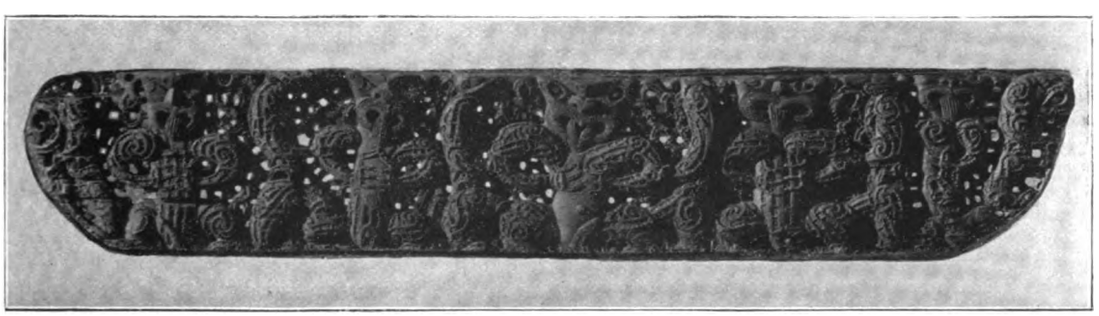


Fig. 2.

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Storehouse on the Island of Papaitonga.

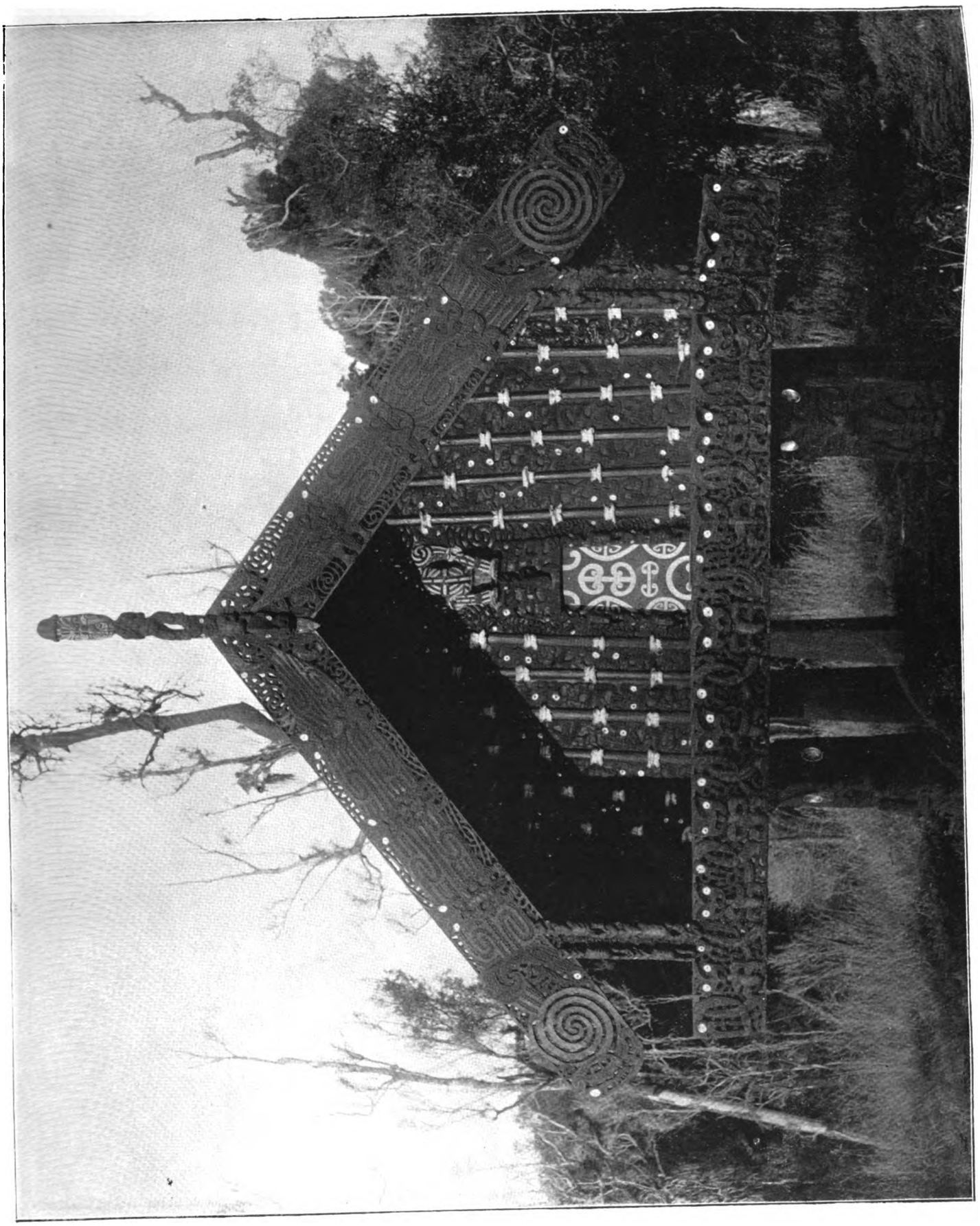
This celebrated specimen of a Maori *pataka*, or foodhouse, called "Te Takinga," was built out of a large war canoe, which was drawn overland from Maketu, on the coast to Rotorua Lake—a distance of 30 miles—by Hongi Hika, the great Nga-puhi warrior, when he attacked Mokoia Island in Rotorua Lake, in the year 1822. The main figure on the doorway slab represents Pikiao, the ancestor of the Ngati Pikiao tribe; the *tekoteko*, or small figure surmounting the top, is called "Te Takinga," the son of Pikiao. The legs or supports were carved by Morehu, of the Ngati-huia Tribe.

It is the property of Sir Walter Buller, K.C.M.G., and is now erected on the shore of the beautiful Papaitonga Lake.

The measurements are: Width of *pataka*, 12ft. 6in.; length, 21ft. 3in. From end to end of carved *pae-pae*, 15ft. Height of carved supports, 4ft.*

* Figured in the "Illustrated London News," October 2, 1886.

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Fig. 1.

Doorway of a large Maori House.

A fine specimen of the decorated framework adorning the entrance to a large house. It consists of three parts, the *korupe*, or lintel, bearing three human figures, with the intervals filled up with *pitau* spirals. The other parts are the two door posts, with superposed figures flanked on the outer side by *pitau* spirals, alternated with a conventional human face in profile. The whole is surrounded with an ornamental decoration of feathers, probably from the New Zealand pigeon. The feathers are carefully prepared and fastened together in small bunches, and these smaller bunches arranged so as to form an even rope of feathers. Sometimes the shafts of the feathers are split to cause the web of the feather to curl. The door, which slides in a groove, is, in the present instance, of sawn timber, but was formerly a single hewn slab. This doorway belongs to Taipari's house at the Thames, represented at Fig. 2, Plate XII.

Fig. 2.

Small Carved Doorway. Auckland Museum.

The doorway of a small house or storehouse from the neighbourhood of Lake Rotorua. An excellent specimen of carving, especially the *korupe* or transverse piece on the top, bearing the three figures. These figures call to mind the deities assigned by the Greeks and Romans to the parts of a door and entrance, more particularly the Greek *antelii* (or demons), who were assigned to the door on the east or sunny side of the house.* The carved doorposts of superposed figures occur in a modified form in New Caledonia.† The ancient Tuhoe people, who live near Waikaremoana, have a peculiar phrase which is used to denote a formal and enduring peace: "The *tatau pounamu*, or jade door, is raised on the closing of strife." The idea recalls the closing of the gates of the Temple of Janus.

Fig. 3.

Doorway of a House in the East Cape District.

A somewhat similar doorway, but without the feather decoration. I have been unable to obtain the names of the figures over the doorway, but in some cases they are said to represent the goddesses of music and dancing, for which purpose the house was probably originally built. The names of these goddesses were Rau-kata-uri and Rau-kata-mea.

Fig. 4.

Doorway of a House at Te Arai.

A different style of work employing a distinct pattern of carving. From their position at the back of a deep verandah, it is not always possible to get a photograph to give a satisfactory representation of the upper part of the carved doorways of the best native houses. The door represented is that belonging to a house at Te Arai, near Turanga (Gisborne).

* Tertullian, "On Idolatry," c. 25.

† See Cook, "Second Voyage," Vol. ii., p. 122 (1777); and Labillardiere, "Voyage in Search of La Pérouse (1800), English Translation, Vol. ii., p. 197; "Atlas," French edition (1798), pl. 37.

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Fig. 1.



Fig. 2.



Fig. 3.



Fig. 4.

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Fig. 1.

A *Tekoteko*, or Gable Ornament from the Roof of a House.

The unusual size of the mouth, and fierceness of expression, together with the narrow perforated board at the feet terminating in a face, renders this a good specimen of one type of gable ornament.

It is the property of Captain Mair, and is in the Museum of the Hawke's Bay Philosophical Institute at Napier.

Fig. 2.

A small *Tekoteko*, or grotesque Human Figure

With an elaborate tattoo, represented as standing upon half a human face or mask. One hand originally grasped a weapon, and the projection on the head probably represents a head comb; it is pierced with a hole for the attachment of an ornamental bunch of feathers.

This came from Moawhango, Inland Patea, and is now in the Museum of the Hawke's Bay Philosophical Institute, Napier.

Fig. 3.

***Tekoteko*, or Gable Ornament.**

A *tekoteko* of the same type as the last, but of better execution. In this the ornamental head comb is defined, and the tattoo of the face and lips is more correct. This is from the Auckland district.

Fig. 4.

A *Pou-tokomanawa*, or Central Post supporting the Ridge Pole of a House at Turanga (Gisborne),

Being probably the representation of a celebrated ancestor. The nose has been barbarously mutilated. It is peculiar in having the arms tattooed with flowing floral figures. The thigh and breech tattooing are well represented, the pattern being different to the usual *puhoro* pattern of the thigh.

Fig. 5.

Ornamental End of a Ridge Pole (*Tahuhu* or *tuhu*).

That part of a ridge pole, *tahu*, which projects from the front wall of a house and forms the verandah, or *whakamahau*. The plain portion at the bottom is the part resting on the *pou-tahu*, or central post of the front wall. This carving is from the East Coast district, and is in the collection of Sir Walter Buller.

Fig. 6.

The Base of a *Pou-tokomanawa*.

Above these two figures was a small female figure affixed to the post. It was part of a house near Lake Taupo, in the centre of the North Island, and is now in the collection of Dr. T. M. Hocken, of Dunedin.

Height of figures: 4ft. 3in.

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Fig. 1.



Fig. 2.



Fig. 3.



Fig. 4.



Fig. 5.



Fig. 6.

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Fig. 1.

Korupe, or *Pare*—**Carved Doorway Ornamented.**

An excellent specimen of carving, in which the usual arrangement of three similar figures is departed from; the central figure being a chief with well-designed face tattoo, attended on either side by two *atuas*, or demons. The treatment of the hands of the demons is noticeable, as they are suggestive of the bird or serpent-headed *manaia*. The background is filled up with the same figures; and when all the eyes were filled with the brilliant shell of the *paua*, must have had a striking effect.

Fig. 2.

A *Poupou*, or Carved Slab forming part of the Wall of a large Maori House.

This and No. 4 are from the same building, and show the variation upon the same design. The circular devices covering the shoulders and thighs are well worked-out examples of a *pitau* pattern. The notch at the top of the *poupou* is called *ruawhetu*, and receives the end of the great rafters, *heke*.

Fig. 3.

A *Poupou*, or Carved Slab from the Maori House in the Colonial Museum at Wellington.

Tareha, a noted chief of Hawke's Bay, gave an account of the building of this house, and a description of the carvings, at a meeting of the Wellington Philosophical Society held in the house itself in August, 1868.* He stated that the house was built originally at Turanga-nui-a-Rua (or Gisborne), by a local chief, in 1845. The carved slabs, or posts, represent ancestors of the tribe: the large one, the fathers; and those on the *hekes*, which in this house are very broad and flat, represent their sons.

It was stated that it took five years to prepare all the carvings. The whole of the carvings are of extreme boldness and beauty, but the details cannot be satisfactorily photographed in consequence of the light being insufficient. The name of the house was Te Hau-ki-Turanga.

* Proc. Wellington Phil. Soc., "Trans. N.Z. Inst.," Vol. i. (new ed.), p. 445.

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Fig. 1.



Fig. 2.



Fig. 3.



Fig. 4.

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Fig. 1.

The two broad Boards forming the two Sides of an elevated Food Storehouse, or *Pataka.*

On the slabs are carved representations of human figures attended by the monstrous bird or snake-headed figures, so frequent in all carvings from the Northern portion of New Zealand. At present no explanation is forthcoming of the esoteric meaning of these mystic figures. To advance a theory on the subject without ascertained facts from the *tohungas* of old, would only add to the difficulties of the interpretation. The slabs are from the neighbourhood of Rotorua. The more modern pieces at the sides have nothing to do with the two slabs, or *pakitara*.

Earle says: "One of their favourite subjects (carving) is a lizard taking hold of a man's head; their tradition being that this was the origin of man." Possibly these *manaias* may have been considered as representations of lizards.*

Length, 11ft. 6in. Width, 2ft. 2in.

Figs. 2 and 3.

Broad Carved Slabs from front of a *Pataka*.

These slabs—Figs. 2 and 3—are at present part of a *pataka* in the possession of Mr. E. Craig, of Auckland. The side boards, or *pakitara*, are shown at Fig. 1. These two pieces (now placed on each side of a central slab) have originally been part of a very beautiful *maihi*, or gable board of an older house. By placing the slabs so that the squared ends come together, and the longest side in each is at the top, and then comparing them with other examples, it will be seen that the typical design of the *maihi* of a *pataka* is recovered, all but a portion of the extreme end, which has been removed from Fig. 3 to fit in with the new position. In its present state it belonged to a celebrated storehouse called *Maru*, and was erected at different times at various places in the Lake District of the North Island by the owners—the Ngati-whakaue.

Height, about 5ft.

* Earle's "Narrative of a Residence in N.Z., 1827," p. 142. In Samoa, *manaia* is the name of a lizard.

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Fig. 1.



Fig. 2.



Fig. 3.

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A huge Carved Post, or *Tiki*, from Te Ngae.

A carving of great size cut from the solid trunk of a tree, representing a human figure, or *tiki*. This originally stood at Te Ngae, a place on the shore of Lake Rotorua, not far from Tikitere. The *tiki* originally represented a chief of the Ngatiwhakaue called Pukaki, and his wife with two children; but the lower part has been broken off, and has perished. The *tiki* was widely known among the Arawas by the name of Pukaki, and the *hapu* which owned it was called Ngati Pukaki.

Height, 6ft. 8in. Width, 4ft. 8in.

The following story concerning a famous carver has its parallel in many lands:—

Rua is considered by the aboriginal Nga-Potiki of Maunga-pohatu as the inventor of carving. He lived in the distant past, in times remote beyond expression. One day the thought came to him to visit the great sea-god Tangaroa—the Polynesian Neptune—Tangaroa-o-whatu. So Rua went to the house of Tangaroa, and found him highly pleased with the appearance of his house, which, he asserted had been adorned with carved figures by Hura-Waikato. And so Tangaroa said to Rua, "Do you come with me and behold my fine house; for doubtless you came to admire the grand work of Hura-Waikato?" Now, when Rua saw the house of Tangaroa he was much astonished to find that the wondrous carving of Hura was no carving at all, but simply painted figures, such as are seen on the rafters of houses. Then Rua asked, "Is this your famous carving?" Tangaroa replied, "Yes, this is the carving." Rua said, "Do you come to my place, and see what real carving is?" for Rua was the father of the art of carving, and hence comes the expression, "*Nga mahi whakairo, nga mahi a Rua*" ("The Art of carving, the Art of Rua.") And the house of Rua was a truly brave sight, so adorned was it with carvings, and so fine were the figures. On a certain day Tangaroa set forth to visit the dwelling of Rua. As he approached the house, and while some distance off, he observed the carved human figure (*tekoteko*) which adorned the front of the house. So he greeted the figure with the words, "*Tena ra koe!*" ("Salutations to you!") and then, walking up to the figure, he proceeded to embrace it, or *hongi* (rub noses), according to custom, not thinking but what this beautiful figure was a living man, so fine was the carving of Rua. As Tangaroa entered the house Rua laughed at him, saying, "This is indeed carving; you see how you have been deceived by it." Then was Tangaroa overcome with shame.*

* Elsdon Best, "Waikaremoana," 1897, p. 34.

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PLATE XX.



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Fig. 1.

Gateway of a *Pa*.

This was the carved gate, or *waharoa*, of the famous Pukeroa *pa*, which stood on the hill overlooking Rotorua. It is carved on the same lines as the central slab of a large *pataka*; and it appears as if the aperture had been enlarged after the completion of the carving.

Height, 12ft. 6in. Width (greatest), 4ft.

Auckland Museum.

Fig. 2.

Carved Slab from an old *Pa* at Maketu.

These large slabs were hewn from carefully-selected logs of totara *(Podocarpus)*, and were found to resist the action of the sun and rain for many years.

Height, about 8ft. Width, 2ft. 3in.

Fig. 3.

Carved Slab from the front of a House (*Amo.*)

A fine specimen of the large carved slabs that form, with the gable boards, the front of a house.

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Fig. 2.



Fig. 1.



Fig. 3.

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Fig. 1.

Portion of the Carving in front of a *Pataka*.

This represents the details of the central group on the long carved board across the front of the *pataka*, a corner of which is shown in Fig. 2. The larger scale shows the character of the carving and the patterns employed. The notched ornamentation is called *taratara o kai*.

Auckland Museum.

Fig. 2.

Corner of a Carved *Pataka* in the Auckland Museum.

This storehouse was built by Haere Huka, a chief of the Ngatiwhakaue section of the Arawas, about the year 1820. It stood at a place called Mourea, about half-way between Lake Rotorua and Lake Rotoiti. Haere Huka made himself notorious in Maori history by his treacherous murder of Hunga at Parihaka, Rotorua, on December, 1835—an incident which brought about a four years' war between Waharoa, who led the Ngatihaua and Waikato, and the Arawas.*

Fig. 3.

***Poupou*, or Carved Slab, from the inside of the Wall of a House.**

This slab represents a sea-demon, or *taniwha*. It has a long tubular tongue (*nono* or *ngongo*), with a cup-shaped head. These monsters are always represented as drawing a fish into this funnel or cup-shaped opening. They are called *marakihau*, and are fabled to draw down canoes in the same way as they are represented drawing in fish. There are some of these figures in the great house at Ruatahuna, and also at Te Kuiti.

Fig. 4.

The Central Board of the Front of a *Pataka*, or Storehouse.

It is elaborately carved with male and female figures covered with the notched form of decoration. The face of the principal female figure is fully tattooed, having marks on the forehead, on the lips, and on the chin. In this instance, the small doorway has the usual *pare* or *korupe* over it with a single figure in the centre, and the bird-headed monsters at the ends. Although somewhat damaged, this is a fine specimen of Northern work of considerable age. The notch seen at the top of most of these central slabs is to receive the ridge pole.

Height, 5ft. Width, 3ft.

In the collection of Dr. T. M. Hocken, Dunedin.

* See J. A. Wilson, "The Story of Te Waharoa," p. 46, *et seq.* (1866).

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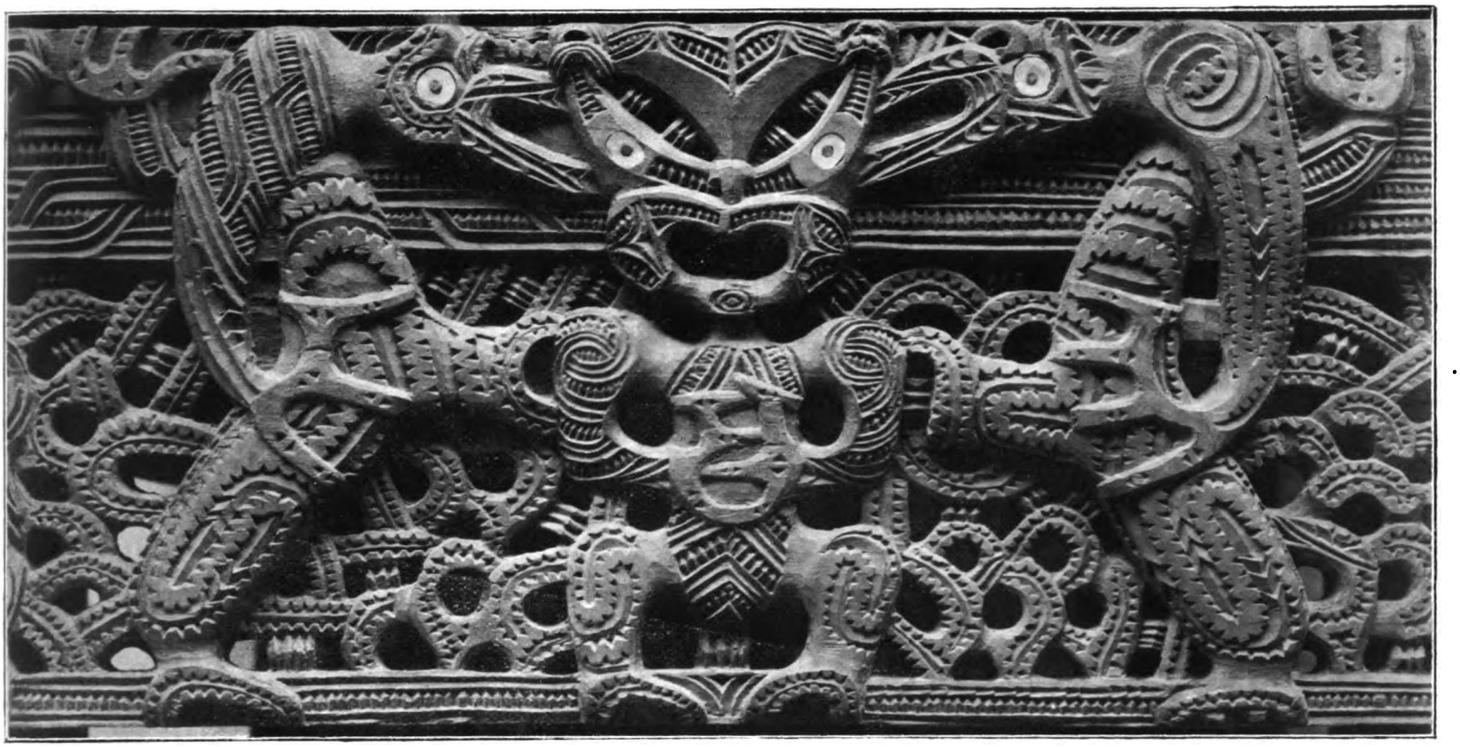


Fig. 1.



Fig. 2.



Fig. 3.



Fig. 4.

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Fig. 1.

Two Carved Maihis. Auckland Museum.

The upper one is from Rotorua, and is said to have been carved about 1822-24.

The lower one came from a Maori house which formerly stood near Puriri, at the Thames.

In the large spirals or *manaias* on the lower part of the *maihis* a distinct serpent's head is shown on the end of the principal line. This is not always found, although the spiral serpent form is an integral part of the design or pattern on all the *maihis* for storehouses in the northern parts of New Zealand. An interesting but difficult chapter of the history of Maori Art requires working out on the point.

Fig. 2.

A Memorial to a Deceased Chief.

Previous to the bone-scraping ceremony, and the final deposition of the bones in a secret cave or hiding place, the resting place of the body of a person of distinction was marked by a carved post, or by the erection of carved slabs, called, in some cases, an *atamira*. In the instance figured, four slabs covered with figures have been used.

Fig. 3.

Two Views of a Carved Wooden Burial Chest—*Atamira* or *Tupapakau.*

A very old specimen of a hollow wooden box in the shape of a human body. The back is closed by a door made of two pieces of wood, tied together, and hung with hinges made of a tough creeping plant. The body part is carefully hollowed out, and contained the bones of a chief. The chest is made of totara, and has been carved all over; but owing to the great age, and the decay of the surface, the pattern is nearly all gone. It was found in a cave near Auckland, together with another specimen in better preservation, now in Melbourne.

The height is about 4ft.

It is now in my collection at Napier.

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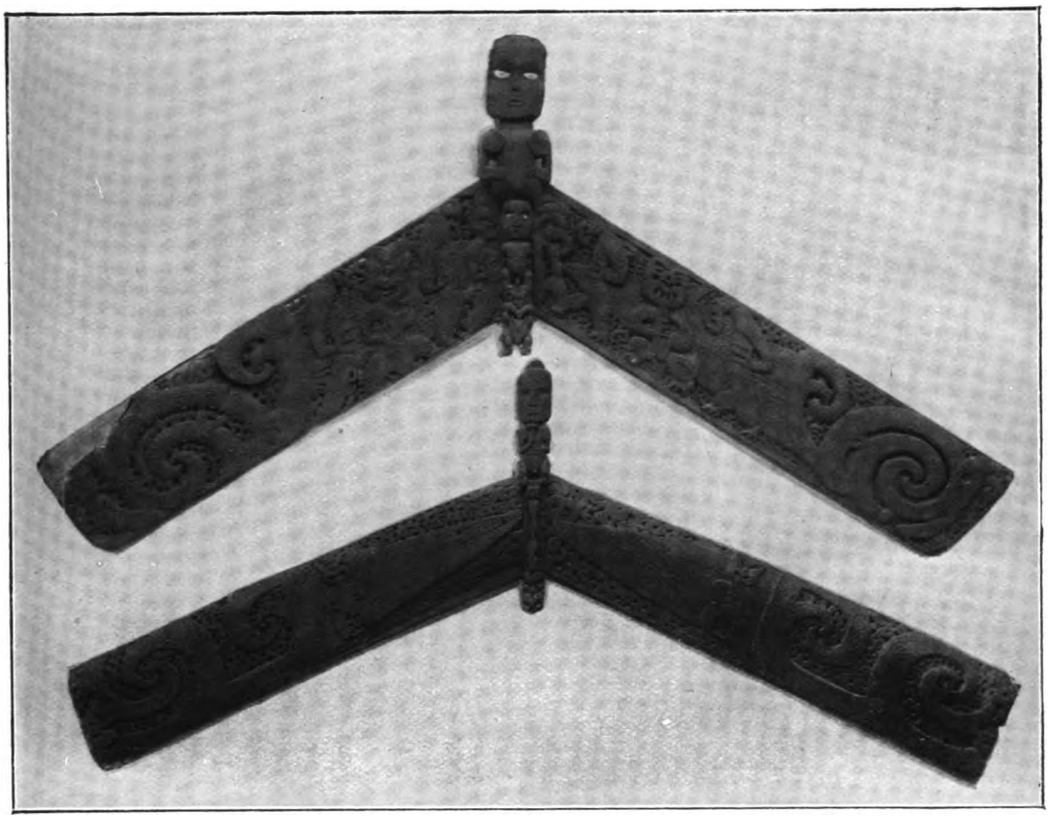


Fig. 1.



Fig. 2.

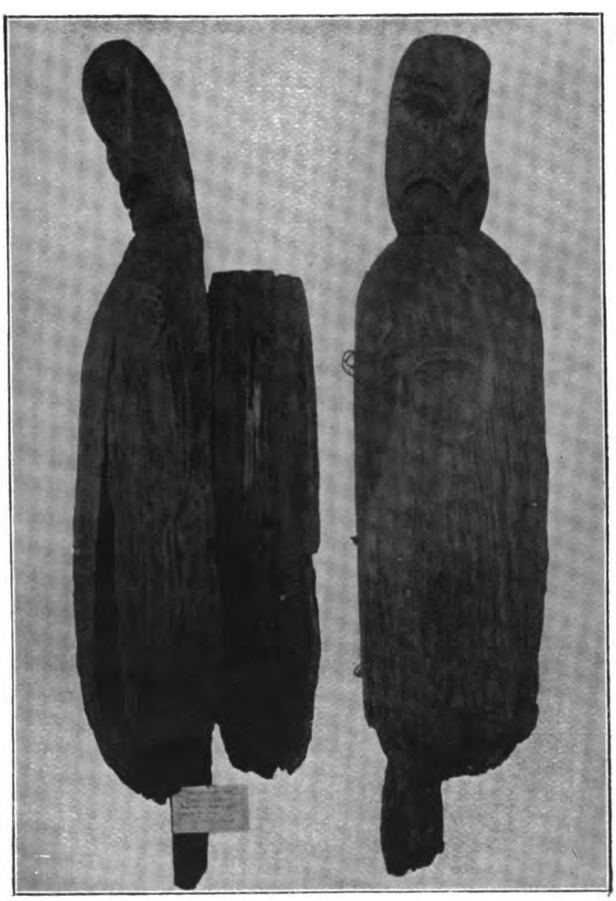


Fig. 3.

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Fig. 1.

The Central Board or Carving from the Front of a *Pataka*, or Storehouse.

Upon the decoration of these storehouses, the carver lavished his greatest skill, decorating the whole of the available space with patterns. The front usually consisted of five or seven planks fitted closely to each other by an overlapping edge, or rebate, and tied at intervals with lashings passed through holes. Over the joints battens were fastened, painted black, and adorned at equal distances with tufts of white feathers, usually either of albatross or gannet.

The smallness of the doorway is always a remarkable point. In this instance, the original carved door is in its place; it was usually slipped into position, and not made to slide in a groove as in the houses. The ornamentation shows many unusual forms.

Fig. 2.

Ornamental Carving from a Doorway.

A small carved figure from a *kainga* in the Whetu Gorge belonging to Kereopa, a noted chief.

The figure is 12in. high, and is in the possession of F. R. Chapman, Esq.

Fig. 3.

Central Board of the Front of a *Pataka*.

Another specimen of the doorway slab of the front of a storehouse, showing a chief with a fine face-tattoo.

Auckland.

Fig. 4.

A Maori House at Whakaki, near Nuhaka.

This photograph represents a small Maori house on the East Coast, and the remains of the fence surrounding it. Many of the posts are probably from the fence of an old war *pa*, and are cut in a conventional manner to represent the heads of enemies stuck upon posts *(whakaporo)*.

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Fig. 1.



Fig. 2.



Fig. 3.



Fig. 4.

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Fig. 1.

Korupe, **or Lintel of a Doorway.**

In this instance, the spaces between the three main figures are filled with a number of small, but complete, figures, and the whole is in high relief. The general style is like that on page 71. This interesting specimen has recently been acquired by the Auckland Museum from the neighbourhood of the East Cape.

Fig. 2.

A Carved *Poupou*, or Slab, from the Carved House at Ohinemutu.

A broad slab, elaborately carved, forming part of the large meeting-house at Ohinemutu—named after the celebrated ancestor of the Arawas, Tama-te-Kapua.

In this slab, Tama-te-Kapua himself is represented with his stilts.*

Fig. 3.

Carved Slab. Auckland.

An example of carving in high relief, with the groundwork perforated. Auckland district.

Fig. 4.

Two Specimens of Carved Slabs. Auckland.

These two carved slabs present several handsome patterns, and are very well executed. The one with the two figures is a slab from the front of a *pataka;* the upper figure is represented as about to play on the wooden flageolet, or *putorino*.

* P.M., p. 125.

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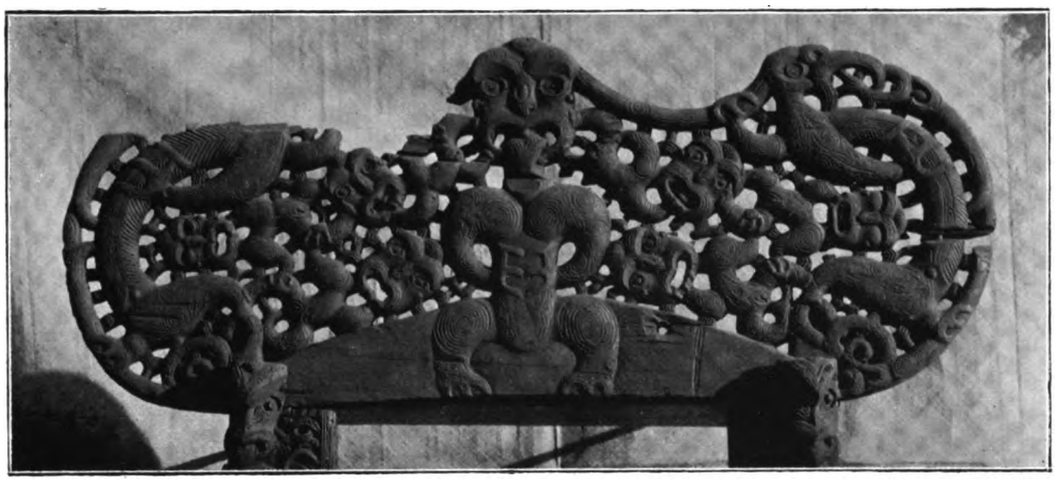


Fig. 1.

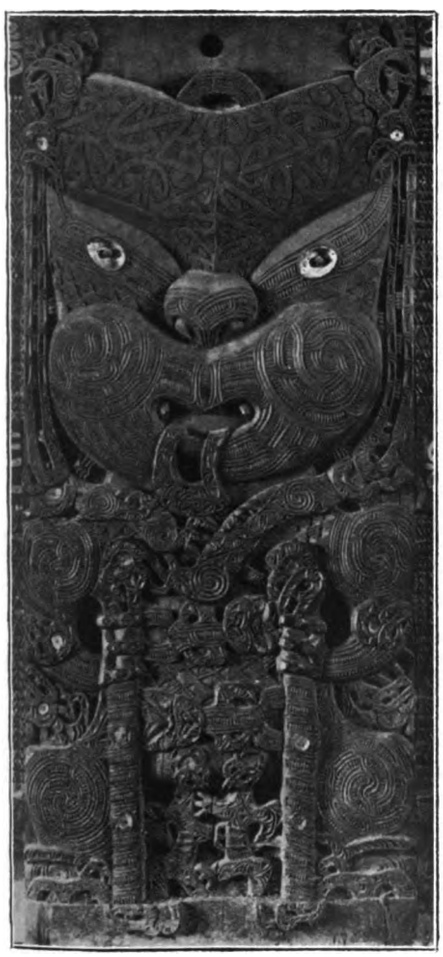


Fig. 2.



Fig. 3.



Fig. 4.

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Korupe, **or Carved Ornament from the Doorway of a House.**

LIST OF ILLUSTRATIONS IN THE TEXT.

Korupe, or Carved Ornament for a Doorway.

In this carving we have a single figure in the centre, attended on each side by a figure in profile. The two portions of the design left uncarved represent the *manaia* or bird-headed figure characteristic of the East Coast carvings.

The specimen is now in the collection of Dr. T. M. Hocken, of Dunedin.

It is 2ft. 7in. wide and 1ft. 4in. high Page 71.

Rua, or Underground Storehouse for Root Crops at Wai-o-matatini Page 99.

Maori Tomb.

This fine specimen of a memorial to a deceased chief was exhibited at the Indian and Colonial Exhibition in London, and afterwards presented by Sir Walter Buller to the Ethnographic Museum of the Trocadero. A figure is given of it in *La Nature*, April 9th, 1887, No. 725, p. 297, together with an interesting account of the chief for whose obsequies it was constructed. Under the protection of this beautiful carving, the bones of Waata Taranui remained for seven years. They were then, with great ceremony, removed to the burial cave of his tribe, which was situated in one of the chasms on the old volcano of Tarawera.* The eruption which took place a few years ago completely destroyed, not only the old chasms and caves, but altered the features of the surrounding country.

The several slabs form a screen about 9ft. 10in. (3 metres) long, 6ft. 6in. (2 metres) high, and 3ft. 3in. (1 metre) deep. The joints are covered with black battens, and the lashings are ornamented with tufts of white albatross' feathers, contrasting well with the rich red colour of the carvings. The *tekoteko*, or figure on the top, is decorated with a large bunch of feathers Page 102.

* The remains of the great Taupo chief, Te Heuheu, who was killed by a landslip, were, in 1850, after the ceremony of preparing the bones, privately conveyed to Tongariro with the intention of depositing them in or near one of the craters of the volcano. See Taylor, "Te Ika a Maui," 2nd ed., p. 525.

The temporary resting place, or tomb, of this chief is also figured at pp. 12, 174, and 520 of the same work.

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Korupe, or Carved Board from the Doorway of a House.

This specimen of the art of the Taranaki natives is fortunately in excellent preservation, and represents, in a more perfect manner, the style figured at page 125. The carving is better finished and in higher relief than in the other example.

I am indebted to Mr. G. L. Sheppee, of New Plymouth, for permission to photograph this example Page 103.

Koruru, or Carved Ornament from the Gable of a House Page 114.

Meeting House at Ohinemutu, Lake Rotorua Page 115.

Koruru, or Carved Ornament from the Gable of a House.

This specimen, and that on page 114, are from the East Cape district Page 116.

Korupe, or Carved Board over the Doorway of a House.

This *korupe* is of a different character to the other specimens figured, and has been slightly damaged at the bottom. The main figures are flanked by a pair of grotesque monsters in profile, both turned to the left instead of both facing outwards. The specimen came from an old house in Hawke's Bay, burnt down many years ago. It is now part of my collection in the museum of the Hawke's Bay Philosophical Institute, Napier.

Length, 3ft. 10in. Page 117.

Korupe, or Carved Board from the Doorway of a House.

A bold specimen of West Coast work, with interlacing net-work in high relief, but not having the interspaces perforated. The shape of the heads of the three female figures represented is curious, and carried out in other examples.

Both ends of this *korupe* have been destroyed.

It is now in the Canterbury Museum, having originally come from near New Plymouth, Taranaki district Page 125.

Paepae from the front of a *Whata*, near Otaki.

Wanganui Museum Page 129.

A Papaka, or Skirting Board.

Colonial Museum, Wellington Page 130.

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Carved Ornaments for Doorways—*Pare* or *Korupe*.

The three upper ones are in the Auckland Museum, and belong to Capt. Mair. The lower one is in my collection in Napier Page 131.

Carved Ornament for Gable of a House—*Koruru* or *Parata*.

East Cape district Page 132.

Korupe, or Carved Ornament from the Doorway of a House.

Although a considerable portion of this carving has perished from contact with the damp earth, it is of interest as an illustration of the method of treatment adopted in the Taranaki district. We have so few carvings of any importance from the West Coast that examples are welcome. The same three figures enter into the design, but the non-perforation of the back, and the beaded pattern employed in the details, are local characteristics.

The carving was found some few years ago on the site of the old stone-walled *pa* at Te Koru, about nine miles south of New Plymouth, and is now in the possession of Mr. W. H. Skinner, of New Plymouth Page 165.

Koruru, or Gable Ornament. Hawke's Bay Page 168.

Korupe, or Carved Ornament for a Doorway.

Very different in style and execution from any others figured. Of the three figures forming the chief points of the design, the one in the centre has a partial face tattoo. The other two have the mouth and nose treated in a manner quite unique. It also appears as if their eyes were closed. The chief interest, however, is centred in the double-headed bird-like figures filling the interspaces. They resemble the figure on a very rare kind of bone or stone ear-pendant, sometimes found in the northern parts of New Zealand.

It is not a very old carving, but probably embodies a pattern of the olden time. It was procured by Dr. Hocken at Tauranga.

Width, 48in. Height, 22in. Page 169.

Korupe, or Carved Ornament for a Doorway. Auckland Museum Page 170.

Part of a Fence with a large Carved Figure.

This represents one of the large carved figures which ornamented the fence surrounding the large native settlement at Wairoa (Clyde), Hawke's Bay. A rope has been attached to the figure, probably on account of the rotting of the post Page 171.

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Koruru, **or Gable Ornament. Hawke's Bay.**

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Korupe, **or Carved Ornament for a Doorway. Tauranga.**

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Fig. 2.—Carved House at the Thames, Auckland.

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Fig. 3.—Central Board of the front of a *Pataka*.
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Fig. 4.—Two specimens of Carved Slabs. Auckland.



Pare or *Korupe*, **or Carved Ornament for a Doorway. Auckland Museum.**

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Part of a Fence with a Large Carved Figure.

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ILLUSTRATIONS OF MAORI ART.

PART III.

THE WEAPONS OF THE MAORIS.

THE IMPLEMENTS OF AGRICULTURE AND HANDICRAFT.

THE SNARES AND IMPLEMENTS USED IN HUNTING RATS AND BIRDS FOR FOOD.

LIST OF WORDS USED IN CONNECTION WITH THE SUBJECTS.

PLATES, WITH DESCRIPTIONS.

LIST OF PLATES.

By A. HAMILTON,

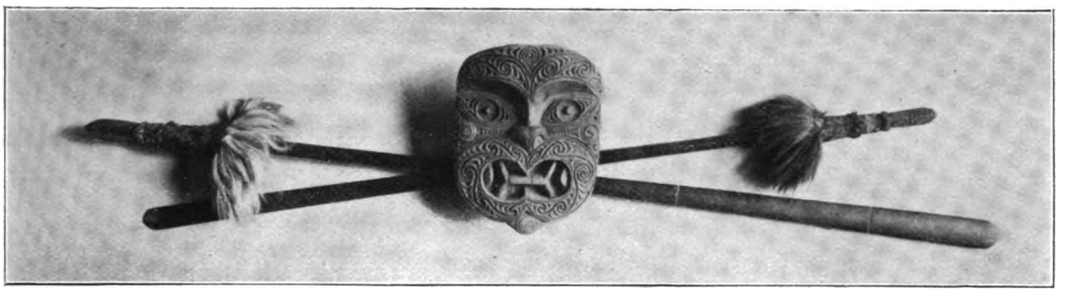
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THE WEAPONS OF THE MAORIS.

"Arma virumque cano."

SEVERAL writers have given translations of the dragon-slaying legends known to the Maori; and all the man-devouring monsters seem to have had in their insides regular armouries, with an assortment of the principal weapons known to have been used in Old New Zealand. Thus, in the slaying of Hotupuku, a fearful dragon, whose lair was at Kapenga, on the Kaingaroa Plains, when "the moving hill of earth" had been entangled in the snares, and slain, and when it was cut open "there lay the bodies of the victims—their greenstone clubs *(mere pounamu)*, their short-knobbed clubs of hard wood *(kotiate)*, their weapons of whales' ribs (both long and short) *(hoeroa)*, their travelling staves of rank (*taiahas*), their halbert-shaped weapons *(tewhatewha)*, their staffs *(toko)*, and spears *(tao)*—there these were all, within the bowels of the monster, as if the place was a regular-stored armoury of war."*

Again, in the killing of Pekehaua, the water monster of the Black Chasm, when the brave Pitaka and his companions had by their spells and valiant conduct drawn the *ika* to the dry land, and cut him open, there they found the remains of his victims."† There were also arms and implements of all kinds—clubs (*rakau*), spears (*tao*), staves (*tokotoko*), their hardwood chopping knives, white whalebone clubs, carved staffs of rank (*taiahas*), and many others, including even darts and

* Colenso, "Transactions New Zealand Institute," Vol xi., p. 91.

† *E ka pukei! . . . nga rakau ano, nga tao, nga tokotoko, nga meremere, nga onewa, nga patu paraoa, nga paraoa-roa, nga maipi, nga pouwhenua, nga paiaka, nga mahi a te amonga a te kai nei, a te kaniwha, a te pere. Ano! ko te whare huata a Maui, e ka pukei.*

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barbed spears (*kaniwha*), which the monster had carried off with its food.* The same dragon-slayers also slew Kataore; but this does not seem to have been exactly an heroic deed, as the poor dragon was the pet of a chief who was at the time away from home. Moreover, the dragon was discriminating, and only destroyed strangers. The usual store of weapons was, however, found, on dissection, according to the legend. A great dragon of the South Island—Te Kaiwhakaruaki—which lived in the Parapara Stream at Collingwood was slain by Poturu and his men, with the 340 spears, all made out of one pohutukawa tree *(Metrosideros)*, and it also was found to contain weapons and mats of all kinds.†

Being entirely ignorant of all metals, the Maoris were limited to the few materials afforded by Nature which were available for weapons of offence and defence. These were, first, various hard and tough woods, such as ake-ake (*Dodona*), manuka (*Leptospermum*), &c.; second, the bones of the larger cetaceans, frequently found on the sea beaches in the old days; and, thirdly, the various hard and closely-grained stones found in different parts of the country, including the famous and much-prized *pounamu*, or greenstone.‡

Ko ta namata riri, He kahikatoa, he paraoa, He ake-rautangi.	The fighting weapons of the days of old were made of the *Kahikatoa* (wood), and sperm whale bone, and *Ake-rautangi* (the rustling-leaved *Ake*).

The *taiaha* is perhaps the most characteristic weapon of Old New Zealand, as it was almost constantly in the hands of persons of distinction. Not only was it a weapon capable of scientific use, possessing a traditionary usage of its own, somewhat like that of the English quarter-staff, but it was indispensable to the orator as he trod the *marae* and delivered the flowing periods of his speech. The management of the *taiaha* as a fighting weapon was studied with as much care and attention by a Maori warrior as ever a swordsman gave to the mastery of his glittering blade; and the etiquette of the *taiaha*, as adding force to an argument, or accentuating an oratorical flourish, was well understood by the leaders of the people.§

* Colenso, "Transactions New Zealand Institute," Vol. xi., p. 94.

† Te Whetu, "The Slaying of Te Kaiwhakaruaki" (translated by Elsdon Best).—"Journal Polynesian Society," Vol. iii., p. 15.

‡ *Pounamu*, or greenstone.—In all parts of the world green jade, or *Nephrite*, has been valued for tools or ornaments. There is a very extensive literature on the subject, which will be referred to in another part of this work. A summary of that relating to N.Z. will be found in the "Trans. N.Z. Inst.," Vol. xxiv., pp. 479-539.—F. R. Chapman.

§ Illustrations of various positions in a combat or exercise with *taiahas* are given in the illustrations prepared for J. White's "A.H.M."

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The various points and guards of the *taiaha* were as follows :—

Popotahi (guard).—*Taiaha* held vertically before the centre of the body with the carved tongue *(arero)* downwards.

Whakarehu (point from *popotahi*).—The lower end of the *taiaha* raised and thrust at the adversary.

Whitiapu.—The blow from the same guard *(popotahi)*, with the blade brought down as a club.

Huanui (a guard).—*Taiaha* held horizontally across the body, tongue to the left. The point and blow—*whakarehu* and *whitiapu*—are also given from this guard.

The shape and proportion of the weapon are always the same, the length varying with the fancy of the owner. It was usually five or six feet in length, the lower end being thin and flattened, with sharp edges. The upper end invariably terminated in a carved head, in which a protruding tongue forms the chief part, and which is shaped so as to resemble a long spear-head. The face and tongue appear on both sides of the weapon. The tongue, or point (*arero*), is usually carved with a beautiful scroll pattern which seldom varies, except in the distribution of the scrolls. Radical departures, such as a pattern formed of straight lines, are seldom seen. The eyes of the carved head are filled in with delicately cut circlets of the *paua* (*Haliotis*) shell, carefully selected so as to be of an approved colour. In an old specimen, the surface of the weapon, especially where grasped by the hand, is highly-polished, and has a peculiar ripple-like feel, caused by the scraping or smoothing of the surface with the edge of a shell or some similar cutting edge. About four inches of the shaft, close up to the carved part, is covered by a little tightly-fitting mat (*tauri*), made of flax into which are worked the bright scarlet feathers from under the wing of the large New Zealand parrot (*Nestor*), and at the lower edge of this are fastened a number of little quillets, or tassels (*awe*), of dog-hair, each quillet being elaborately bound up at the base with a kind of sword-stitch, with a fine cord made of the best picked flax fibre. These tassels of hair form a handsome fringe about five or six inches long, and, being generally white in colour, contrast well with the brilliant red of the feathers, and the rich brown polish of the *taiaha*.*

* Mr. Colenso mentions a strange method of obtaining these narrow strips of skin, covered with the long white hair, from the tails of living dogs.—"Trans. N.Z. Inst.," Vol. xxiv., p. 452.

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It is, perhaps, one of the most common of the New Zealand weapons in collections. In shape it closely resembles a light form of club-weapon from Samoa, but much more so those from Easter Island, in which the head and tongue portion is still more emphasised.* In Maori myth and story it plays a conspicuous part. The duel between Ruaeo and Tama-te-Kapua was fought with the *taiaha*. There are many historical specimens at present in existence, and others are known which have been handed down as ancestral relics, or as oracles for divination. A noted weapon of the latter class was the *taiaha Matuakore*; it was also very sacred, because it gave true indications of coming events—of evil or good—or death or life—that was to come on man. Its signs were held as indisputable.

It belonged to the chiefs of the Ngati-Maniapoto, and it was by virtue of this weapon that the Ngati-Awa were conquered in three great battles.

The signs given by *Matuakore*, by which future events could be read, were given by the *tauri* of the weapon. If, when the covering mats in which it was wrapped were taken off, the *tauri* shone with a flash, it was a sign of life, propitious in every way, for the tribe in whose possession *Matuakore* then was. But if the red feathers of the *tauri* were a pale red it was an evil sign of death; and if the red were a dull red, it was a sign of evil, but not of great evil.

The *taiaha* of the great *toa* or fighting chief, Hinatoka, who lived several generations ago, is still preserved by the tribe, the Ngati-Porou. This weapon, in the hands of Hinatoka, destroyed the ancient tribe of Te Wahine Iti, and secured to Ngati-Porou all the lands lying between Waiapu and Tuparoa.

It is believed to possess great powers in the way of prophetic augury. In the hands of those capable of performing the proper incantations, the result of a battle could be easily ascertained before hand. The usual method adopted was to lay the *taiaha* upon the ground before the war party while the chief *tohunga* performed the usual *karakias*; then if the gods were propitious, the *taiaha* would turn itself slowly over before the eyes of the assembled tribe, to the utter confusion of the enemy.†

* Occasionally a small specimen of a *taiaha*, without the expanded flattened blade, is seen, carved from a bone of the sperm whale—generally from the hard, dense bone of the jaw.

† Judge Gudgeon, "History of the Maoris," 1885.

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In many instances it has been used as a token or symbol of authority, as in the case when Rewi delivered to Ngata the *taiaha* now in the Otago University Museum, known as *Mahuta*, as his warrant or authority to prevent, or, if necessary, kill, any European crossing the *aukati* or boundary line surrounding the so-called "King Country." The weapon was given by Wahanui to the Native Minister, Mr. John Ballance, in 1883, at Kihikihi, when, under the Amnesty Act of 1882, a pardon was granted to the murderer of Moffat, who was killed for crossing the forbidden line in 1880.

Of spears (*tao*), there were several kinds, but specimens are rarely seen in collections. The common spear (*tao*)* was perfectly plain, about six or seven feet long, about one inch in diameter at the thickest part, and tapered to a sharp point at each end. The older and more valued the specimen, the higher the degree of polish and finish it possessed. In the storming of fortified places, and at the commencement of engagements, this short spear was much used. Mr. T. H. Smith says† in his paper on Maori weapons:—"The *tao* was most frequently used in the duels, which were often the outcome of a private quarrel, and the *taua*, or small armed parties which would visit an individual or settlement to demand and obtain satisfaction for some affront or injury, as, for example, the abduction of a woman, a *kaanga*, or curse, &c. Fierce encounters sometimes took place on such occasions, but were seldom attended with fatalities. Generally both parties used *tao*, spears. Only flesh-wounds were inflicted, and, as Judge Maning says, 'No more blood was drawn than could well be spared.' In the case of a quarrel between two individuals, a challenge would often be given and accepted in the same terms—'*To taua ata*' (we meet in the morning), was replied to in the same term, '*to taua ata.*' In the early morning accordingly, the principals, in appropriate costume, with spears in their hands, would meet and try conclusions with one another, in the presence of their relatives and friends, who would attend to see fair play, but it was generally understood that a mortal thrust was not to be given, and a flesh wound received by either combatant would terminate the affair."

The short hand-spear was to the Maori what the small-sword was some years ago to the English gentleman.

* Mr. Elsdon Best informs me that *tao* is the name of the bird spear at Ruatahuna (called elsewhere a *here*) amongst the Urewera, and was never applied to any fighting weapon.

† "Trans. N.Z. Inst.," Vol. xxvi., p. 437.

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This was also the short lance-like spear which was thrown as a gauntlet, or challenge, to the enemy. Mr. Colenso points out that "whenever a canoe, or body of men, came upon Captain Cook, whether at sea or on land, and were for fighting, a single spear was invariably thrown (then called *mutu*). This, however, was by way of challenge *(taki)*, and was in accordance with their national custom, just equal to the old European one of throwing down the gage."

When a party of natives visited another in time of war, a certain number of young men rushed forward to meet those advancing in the same way from the welcoming party, and having given their challenge cry (*takiua*), they threw reed spears as a *taki*, or challenge ceremony, and then fled back to their own ranks.

Constant use and practice gave them great skill in the use of the spear, and in parrying it (*karo*), when used as a thrusting weapon, or as a dart. There is an often-quoted and interesting proverb—

"*He tao rakau ka taea te pare; he tao kii ekore e taea.*"

[A wooden spear can be parried; a slanderous word (a "spoken spear") cannot be parried.]

Or, "*He tao rakau, karohia atu ka hemo; te tao kii, werohia mai, tu tono.*"

[A wooden spear, if warded off, passes away; the "spoken spear," when spoken, wounds deeply.]

Or, "*He tao kii ekore e taea te karo; he tao rakau ka taea ano te karo.*"

[A "spoken spear" cannot be warded off; a wooden spear can easily be warded.]

Before going into battle an invocation *(ki-tao)* would be spoken over the spear. As a defence against spear thrusts, it was usual to roll thick mats *(pukupuku* or *puoru)* round the left fore-arm. Sometimes the mat would be dropped into water to make it more impenetrable, by tightening up the meshes of stitches of the mat.

Dr. Thomson states that "spears were from 4 to 14 feet long, hardened at the ends by fire, and, although brandished over the head to excite terror, were thrown from a level with the hip."*

Besides the short spear, or dart, a larger and heavier weapon was used in battle, or in the defence or assault of a *pa*. It was from 11 to 14 feet long, made

* Thomson's "Story of N.Z.," Vol. 1, p. 140. Savage states that "they were nearly 30 feet long," p. 66 (these were the *huata* used in sieges to thrust between the palisades.)

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of hard wood. It appears to have been occasionally carved about two or three feet from the point with a characteristic pattern, and, in some instances, the point of the spear from the carved part was quadrangular, and the angles were cut into short barbs. It was made long and strong, so that it could be thrust through the defences of a *pa*.

Another large spear of this kind had, lashed to the head, a number of the barbed spines from the sting ray (*Trygon*). I have not seen a perfect specimen, but I once found at an old *pa* at Paremata, near Wellington, 46 of these spines carefully assorted, lying in position in the sand, but the wooden portion of the spear had perished as well as the lashings. The base of the barbs, however, showed the artificial lines and notches made to enable the lashings to get a grip of the barbs. In several of the barbs, the serrations had been ground off one side of the spear for some reason or other. The battle of Te Whai, fought between the Ngai-Tahu and the Ngati-Mamoe in the Middle Island, was thus named because the Ngati-Mamoe used spears barbed in this way.

There is in the possession of Mr. C. E. Nelson, at Rotorua, a short spear, in which about 2ft. 6in. of the head is flattened and expanded to a width of about 3in. at about a foot from the point. It is said to have come from the Urewera district, and to be called *turuhi*.

From near Parihaka, in the Taranaki district, I have seen a spear (*tete paraoa*) with a bone point, jagged with the barbs turned towards the wooden handle. It had a large tuft of dog-hair fastened round the junction of the bone point and the wooden shaft. With such a weapon Nga-toko-waru, of Waikato, killed Te Putu seven generations ago. He broke off the bone part, and used it as a dagger.

There is a story of an old warrior named Patiti, who died and went to Reinga; he left a son, and this son turned out to be a very brave man; and a report of his bravery having been carried to the world of spirits by some of the departed, it roused the martial ardour of the father, who in his time was considered to be unrivalled in the use of the spear, and he therefore visited the earth with the determination of testing the prowess of his son by a contest with him. During the engagement the son was unable to ward off his father's thrusts, who, being satisfied

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in having thus overcome his son, returned to the other world. The Natives believe that, had the son proved the better spearman, the father would have continued to live on the earth, and that man would not have been subject to death.* Judge Wilson† gives an interesting account of a duel, or affair of honour. Uta had run away with the wife of Tua. Uta subsequently thought fit to return, and take the consequences. A meeting was arranged. Uta went to the place appointed with his friend Rua; and Tua, with four other principals—near relatives of his who wished "satisfaction" from Uta to avenge the family honour. Uta sat on the sands, unarmed, provided only with a short stick, called a *karo*, with which to ward off any spears thrown at him, or blows from other weapons that might be used. Had he been a slave he would not have been allowed to have even a *karo*, but must have defended himself with his hands and arms. Uta's *karo* had been well *karakia*-ed by the priest. He managed to ward off the four darts of his assailants without being injured. The rights of the four were now exhausted, the *atua* having caused their attacks to fail, they could not be repeated without danger to themselves. Even against a slave the attack could not be renewed. They had chosen their weapon, the weight and size of it, and their distance; but the gods were against them. The duel ended by Tua killing the unsuspecting Ana, who, practically, was not interested in the matter at all.

The *tewhatewha*, a very favourite weapon, was in the form of a battle-axe, made from a carefully-selected piece of hardwood or bone.‡ The handle is oval in section, and terminates in a sharp point like a spear; about the third of the way up the handle is a small piece of carving—generally a human head repeated on two sides. The expanded portion representing the blade is thin and sharp at the edges and the back, but generally flat at the top. Near the lower part of the semi-circular curved edge is a hole through which is passed a short piece of a specially-prepared cord, having at each end small bunches of large feathers *(puhipuhi)* from the tail of a hawk or a pigeon. These feathers are prepared by splitting the web from the shaft of the feather—each web being still attached to a thin strip from the shaft. They are then soft, and have a tendency to a spiral form, which improves the

* White's "Maori Superstitions," p. 105.

† J. A. Wilson, "Sketches of Ancient Maori Life and History," p. 29.

‡ There is a fine whalebone *tewhatewha* in the Auckland Museum, found, I believe, at the Gate Pa, Tauranga, in 1876; and there is one figured in Edge-Partington's "Album of the Pacific," plate 231, No. 8.

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appearance of the bunch. This weapon is essentially the weapon of a leader; and with it he signals to his men, or waves it to give the time for a war dance or a war canoe song. If used in close combat, the sharpened end was formidable as a stabbing or a spearing weapon; and in combat with one armed with either a *taiaha* or a spear, the bunch of feathers whirled in the strokes served to confuse the adversary. It is said that the actual blows were struck with the sharp back-edge of the expanded head, which naturally would be the strongest and most effective part. In old sketches, and especially in the Plates to "Cook's Voyages," the axe-like head is smaller and of a somewhat different shape from that now seen in museums. There is, however, a very fine old specimen in the Wanganui Museum which corresponds exactly to the older forms given in the "Voyages," and I have seen sketches of one or two specimens in private collections in England.

The finest *tewhatewhas* are usually highly-polished with constant handling and careful attention; but they are perfectly plain, except for the small ring of carving on the handle. Modern examples, however, are frequently elaborately carved, not only on the handle, but on the blade. This weapon, however, according to Mr. Smith, was less used for offence and defence than as an instrument by which the chief or leader directed the movements of his followers, the blade and feathers causing it to be easily seen. He then quotes Major Mair as saying that "on the occasion of the last day of the fight at Orakau, owing to a temporary panic among the besieged, there arose the ominous cry of '*Kua horo te pa!*' (the fort is taken.) The Waikato, at the south end, rushed out, and to the number of 80 or 100 appeared as if by magic in the open space. The bugles sounded the alarm, and, just as suddenly the soldiers sprang to their feet and opened a half-circle of fire on the Maoris. Then a tall chief stood up, waved his plumed *tewhatewha* three times—and lo! the Maoris had vanished." This use of the weapon caused it to be known as the "*rakau rangatira*," or chief's weapon, it being so often seen in the hand of a chief, not only in war, but on other occasions. The *tewhatewha* was also the weapon usually carried by the *Kai-tuki*, or man who gives the time for the paddles in a canoe.

Pouwhenua.—This weapon does not seem to have been so much in use as the *taiaha* or *tewhatewha*. It corresponds almost exactly to a *taiaha*, with the exception of the carved tongue; in fact, when the sacred *taiaha Matuakore* was at

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last captured by the Ngati-Raukawas at the battle of Hunawi, they were so afraid lest it should be seen in their possession that they chipped the carved tongue off, and made it into a *pou-whenua*. Like the *tewhatewha*, it has a small piece of carving about one-third the distance from the point to the flat blade. Occasionally a specimen is carved all over. Nearly all the wooden weapons, when used as ceremonial weapons or emblems of rank, were carved all over.

A long-handled weapon, with a small iron axe-head called a *kakauroa*, was much in favour in the earlier wars with the European settlers. A light, carved handle about five feet long made the light axe-head a formidable weapon when wielded by an active and powerful savage. The same kind of axe was affixed to a short handle, either of bone or wood, generally carved and ornamented with *paua* shell *(Haliotis)*. This *patiti* then formed a handy weapon or tool which could be carried in the belt, and was invaluable to the Maoris in fighting at close quarters with the colonists.

We now come to weapons—*patu*, that can be carried in the belt, and that are fastened by a short cord *(tau)* or loop round the thumb. Chief among these is the *mere-pounamu*, or short fighting club, made of the much-valued greenstone. The figures given in the Plates will show the various forms assumed by this far-famed weapon. The material required for its manufacture was only obtained with great difficulty, and pieces suitable for a chief's *mere* were of a value which can hardly be realized by Europeans at the present time. Much of the Maori history centres round a few historic and famous *meres* which have earned their celebrity on fields of slaughter, and have passed down from generation to generation, till their renown has become equal to the renown of the swords and axes of the heroes and knights of old in European romances. Although the stone is one of the hardest that lapidaries have to deal with, the preliminary shaping of the *mere* probably did not take very long when prepared by a skilful craftsman; but the finishing touches to the shape, the polish, and the drilling of the hole for the cord took a very great deal of patient labour. The end, or butt, of the greenstone *mere* appears never to have been finished off with the care and labour expended on the *onewas*, or *meres*, in black basaltic stone, but it was frequently left somewhat pointed, and the ornamental grooves encircling the butt, or *reke*, more or less indicated.

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Strange stories are told of the magic powers of many of the best-known examples. The beautiful *mere*—*Pahikaure*—belonging to Te Heuheu was said to be invisible to his enemies, and to hide itself and reappear at his call.*

The greenstone *mere* was seldom used to deliver a striking blow; but at close quarters an upward thrust was given, as with the short Roman sword, if possible under the ribs or under the jaw, whilst wrestling with an antagonist. The favourite place of all was the temple, the sharp end of the *mere* being driven through it.

The *mere* was also much used by chiefs to kill prisoners of war, and was held firmly in hand with the flat side uppermost, and driven into the skull at the temple; then, with a rapid turn, the top of the skull was jerked off so as to ensure death. Te Wherowhero in this way killed 150 of his prisoners after the fall of Pukerangiora. The use ascribed to the *mere* by the Rev. Richard Taylor is certainly a misconception.† In the "Story of Puhihuia," Te Ponga and his host exchange their greenstone *meres* at a formal ceremony, with speechmaking, to establish and make sure the peace which they had concluded.‡

From a close-grained basaltic stone is made a very shapely war club, generally called an *onewa*. The material admits of a high degree of finish, and every care is taken in working to ensure perfect symmetry and smoothness. Though not possessing the attractive colour or markings of the *pounamu*, a perfect, well-finished *onewa* is a wonderful specimen of barbaric art. On the West Coast this form seems to have been called *kurutai*.§ Besides this basaltic stone and the *pounamu*, *patus*, or clubs, of the same class and pattern were made from suitable portions of the whales found on the beaches. By careful selection, a very serviceable weapon was cut from the hardest portion of the jaw of the sperm whale. Being hard and dense, the bone took a good polish, and a *mere*, or *patu-paraoa*, was a highly-esteemed possession.

* Several other celebrated *meres* are mentioned by Mr. Smith in his paper, "Trans. N.Z. Inst.," Vol. xxvi., p. 448; and also by Mr. F. R. Chapman in his paper on "The Working of Greenstone," "Trans N.Z. Inst.," Vol. xxiv., p. 533. The general shape is the same as the instrument of palm-wood used in Tahiti as a bread-fruit splitter (see "Journ. Anthrop. Inst.," Vol. xxi., Pl. x., Fig. 5.)

† Taylor, "Te Ika a Maui," p. 465. Col. Lane-Fox thinks the *mere* derived its origin from the stone axe used as a hand weapon without a handle, and gives figures illustrating his opinion.—"Journal Ethnological Society," n.s., Vol. ii., p. 106.

‡ Grey, "Polynesian Mythology," p. 309 (1855 edition).

§ This *Kurutai*, or *Kotaha kurutai*, is described as a sharp dagger-like stone thrown (with a string attached to it, the other end of which was tied to the war belt) against a flying enemy; the string enabling its recovery if the mark was missed.—A.H.M., Vol. iv., p. 97.

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At the Philadelphia Exhibition there was an interesting specimen of a steatite *patu*, or *mere*, found in Michigan, corresponding almost exactly with a New Zealand *mere*; it was, however, not drilled for a wrist cord. It measured 16¼ inches in length, 2⅝ inches wide for 11 inches, where it tapered to 1½ inches, but again widened to 2 inches at the end.* There is also a similar weapon recorded as having been found in Peru, made of brown jasper†, which by the figure given agrees exactly with our *onewas*, and also one of a greenish amphibolic stone from Cuzco. In all these cases, however, the form was probably an independent invention.

Another form of *patu*, or striking club, almost peculiar to New Zealand is the fiddle-shaped weapon called a *kotiate*. This is much broader in the blade or flat part than the *mere pounamu*, or *onewa*, and the handle is straight and distinct from the flattened portion, nearly circular in section and long enough to permit of a firm grasp, the end terminating in a conventional head, or other ornament. Near this head is a hole for the cord or wrist-strap. In the centre of each side of the sharp edge of the blade is a deep notch, which makes the blade resemble the figure 8. Many theories have been propounded to account for the use or object of the notch, which is also found in another form of *patu*; but I do not know of any satisfactory explanation. The *kotiate*, or "liver cutter," is found in wood and bone, but never in stone. The *patus*, in the shape of the *mere-pounamu*, or *onewa*, are never found in wood. A form of *patu*, curved at the top like an English bill-hook, or like the top of the herpe of Saturn, is common both in wood and in bone. It has usually a small human figure carved on the edge of the blade, just above the handle on the hollow or straight side of the weapon. On the other side they are sometimes notched like the *kotiate*, and are then called *waha-ika*. This form is much used in dances as a weapon to brandish, and is often elaborately carved. In the *patus* of wood or bone, the hole for the cord is seldom bored, but usually cut out, either rectangular or else shaped like the capital D.

A wooden or bone truncheon, or club, quadrangular in section, is sometimes seen; it is about three or four inches in diameter one way, and two or three inches

* "American Naturalist," September 1876, p. 558.

† Klemn, "Werkzeuge und Waffen" (1854), Fig. 46, p. 26. Sir G. D. Gibb exhibited at one of the meetings of the Anthropological Society a *patu* found by Captain Lowe in the Society Islands. There was little doubt, however, that the weapon had been formerly taken to that island from New Zealand.—"Journ. Anthrop. Inst.," Vol. iii., p. 266. I have also seen a New Zealand bone *mere*, which I was credibly informed was dug up in Ireland. A much-damaged bone *mere*, 18¼ inches long, is in the Guildhall Museum, London, having been dredged up on the Thames.

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in the other diameter, the part grasped by the hand being nearly circular in section, terminating with the usual conventional head or a design in straight lines This weapon is called a *potuki*.* In the Murihiku District of the South Island a distinct type of stone club has been found, and it resembles a *potuki* more than any other, being longer in proportion than a *mere*, and either diamond-shaped or elliptical in section. There is also a peculiarity about the handle, which is not finished off with ornamental grooves. The specimens found all appear as if they had been twice bored at the end of the handle, or as if an attempt had been made to give a forked end to the butt.†

Mention is made in Maori story of a weapon called a *kotaha-kurutai*, which was affixed to a long cord and fastened to the waist or war-belt. It could then be thrown at a flying enemy, and recovered. It is not very clear what the actual shape of the weapon was. Mr. White‡ figures two angled javelins, apparently of wood, in his book as *kotaha-kurutais*; but no specimens having been seen to support this conjectural (?) drawing, it can hardly be relied upon. As the West Coast term for an ordinary stone *mere* is *kurutai*, it was possibly an ordinary *mere* used in the way described, upon exceptional occasions, as a projectile, or it may have been of the nature of these southern forms on the pattern of the *patuki*.

The idea of a projectile weapon, which could be recovered by means of a cord, was also carried out in the case of a unique form called a *hoeroa*, or *tata paraoa*. This was always made of bone from a whale. It is generally said to be made from a whale's rib; but all that I have seen have been made from the thin portion, or ramus, of the jaw of the sperm whale. The weapon is very rare, and well worthy of special notice. The general width is about 2¼ inches, the thickness ¼ inch, and the length about 4 feet 6 inches. The head is carved on both sides with a fine conventional pattern, having two holes in it for the attachment of the cord *(taura)*, or for the ornamented quillets of dog-hair with which it was sometimes adorned. The blade is perfectly plain, and well-polished. About half-way down on the two edges, just where the balance comes, there is a slight carved ridge or ornament.

* The club-shaped pounder, or beater, used for pounding the edible fern-root, is also called *patuki*, although it is not always quadrangular in section.

† A description, with figures of some of these weapons, is given by me in "Trans. N.Z. Inst.," Vol. xxix., p. 169, Pl. viii.

‡ A.H.M., Vol. iii., p. 66 (Maori part). In A.H.M., Vol. iv, p. 97, Tauira-iti succeeds in killing two of Pahau's party with his one hand with a *kotaha-kuru-tai*, a sharp, dagger-like stone, thrown with a string, which was not unlike a *mere*, but made of black stone. This was thrown at the enemy with a cord, by which it was again drawn back to the one who threw the weapon.

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It is said that, besides the utility of this weapon as a double-handed sword, it was projected at an enemy with an underhand jerking motion, and that in consequence of the various curves its flight was irregular and difficult to avoid. It could be recovered by means of the long cord, fastening it to the waist of the owner. This is one of the rarest weapons in museums, although common 40 years ago. This weapon had this peculiarity: that it was generally used in killing women. They were impaled by it, in the vagina.

Of true projectile weapons, beyond the light hand-spears and stones, the Maori had but few; for, apparently, the sling for stones and the bow and arrow were not used by him. Much has been written by the Rev. W. Colenso, Mr. Coleman Phillips, and Mr. Tregear on the question of the bow and arrow being known to the Maoris.*

It seems, however, certain that in actual warfare the natives used a throwing stick *(kotaha)* with a lash, for the purpose of throwing darts *(kopere)* or spears into a besieged *pa*. It has been stated that the practice is of modern introduction; but, on the other hand, Otene, a learned man of the Ngati-whatua, says that the Otakanini Pa was taken by the aid of this weapon about the year 1690.† In the case of the burning of the Arawa canoe-house and canoe by Raumati, although it is not stated how the dart, with combustible material tied round it, was thrown—as it was thrown from the other side of the river—it was probably projected by the aid of a whip lash.‡ The *kotaha* is also mentioned in "Crozet's Voyage." He says: "They have sticks, furnished at one extremity with a knotted cord, for throwing darts, in the same was as we throw stones with slings."§ At the present time, Maori boys at play may be seen throwing light sticks an incredible distance with a stick and a lash which is fastened with a special hitch round the spear. Mr. John White thus describes the *kotaha* ‖: "The arrow-spear is made of the

* Colenso, "Trans. N.Z. Inst," Vol. xi., p. 106. Coleman Phillips, "Trans. N.Z. Institute," Vol. x., p. 97; and Vol. xii., p. 60. Tregear, "The Polynesian Bow. Journ., Pol. Soc.," April, 1892, Vol. i., p. 56; also, "Smithsonian Report," 1892, p. 199. C. Staniland Wake, "Notes on the Polynesian Race," "Journ. Anthrop. Institute," Vol. x., 1880, p. 116. A specimen of what appears to be a bow of the Melanesian type was dug up in a swamp, and is now in the Colonial Museum, Wellington.

† See the account of the Capture of the Otakanini Pa, Taranaki, "Trans. N.Z. Inst.," Vol. xxviii., p. 42; and more fully in "Journ. Pol. Society," Vol. vi.; Supplement, p. 75.

‡ P.M., ed. 1855, p. 157. In this story the dart with combustibles is *ahitea*—perhaps a firebrand.—P.M., orig. ed., p. 98.

§ "Crozet's Voyage," Ling Roth. trans., p. 33.

‖ This description appears in "Te Rou," p. 116—a work professedly of fiction; but I do not think there is any reason to doubt that many of the particulars concerning the manners and customs of the Maoris in the book are, and this instance in question, faithfully recorded. Mr. White, of course, did make mistakes like every one else; but his details here have been corroborated by other native testimony.

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manuka wood, which is split into pieces the size of the thumb; one end is allowed to remain of this thickness for half the width of the hand, the remainder, which is about twice the length of the arm, is scraped with a shell or sharp stone until it is about a fifth the size of the head; where the head begins to taper the wood is deeply notched, and to the head is tied a piece of the woody part of the *ponga*, or tree-fern. This is the arrow." The Hawaiians also used the *kotaha*, though they did not use that name: they call it *kao (fao)*, but it was only as a game of skill.

Reti.—This is a throwing weapon used by the Urewera people. It is a light staff about 3 feet 6 inches long, quadrangular in section in the middle, and ornamented at the angles by groups of notches; the head or point is divided for about 4 inches, and each portion pointed. The butt-end has a knob above which is fastened the cord (*taura*) with which the weapon is recovered after it has been hurled at the enemy. The weapon is thrown with the right hand, and the end of the cord held in the left hand.

A modern weapon called a *koikoi* is simply a shaft of manuka wood about 12 feet long (two *maro*), to which is lashed a piece of round iron, sharpened to a point. Sometimes a bayonet was lashed on to a shaft in the same way.

Toki.—Occasionally a chief had a short-handled adze-like weapon—not a true axe, but a greenstone-headed battle adze, with a carved handle under two feet in length. The greenstone adze blade was firmly lashed to the handle by lashings of flax cord. These lashings were, in some instances, covered with ornamental bundles of feathers or dog hair. A short looped cord was attached to the end of the handle, and twisted round the wrist. It was always an uncommon weapon, and, in 1835, Polack found a difficulty in getting from an old *tohunga* a specimen that had been buried in a *wahi tapu*. It was not a greenstone one, but had the blade of a grey-coloured stone; the weapon, in that case, is called a *toki-kohatu*.

A curious wooden weapon is spoken of in Maori tales, called a *mata-kautete*, which apparently closely resembled a Mexican weapon. It was a wooden sword-shaped weapon, with a deep groove on either side, and into this groove were fastened chips or flakes of obsidian *(tuhua)*—a volcanic glass, plentiful in the

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northern volcanic districts. It is not stated how the chips were fastened in; whether with a gum-resin or with lashings of flax—probably the latter, as there is a somewhat similar weapon or implement called a *mira tuatini*,* in which sharks' teeth (of various species)† were inserted to form a saw-like cutting edge of extreme sharpness. These teeth were kept in their place by lashings of fine cord made of flax. Sir Walter Buller has figured a beautiful specimen in the "Transactions of the New Zealand Institute,"‡ which is now in the Hunterian Museum in Glasgow. As Sir Walter Buller points out, besides being useful as a weapon at close quarters, the *mira-tuatini* was probably used to produce the gashes usually inflicted by mourners on their bodies at *tangis* or ceremonial mournings. It is usually stated that the use of such an implement was to cut up human flesh.§

The shark-toothed knives, figured at page 189 in "The New Zealanders," are Micronesian, and not New Zealand. In these the teeth are usually fastened in with a fine cord of plaited hair. A good *mira-tuatini* is, however, figured in the same work at page 127. In the account of the fishing of Maui given by Taylor‖ (when the big "*ika*" of the Islands of New Zealand was drawn to the surface), it is said to have been crimped or scored by Maui with a shark-toothed knife—hence the valleys and mountains.

No specimen of a dagger exists in any collection known to me; but Angas says¶: "A small wooden dagger is occasionally to be met with; it is carried for purposes of self-defence by natives travelling who go alone through the woods."

A sword-like weapon called a *ripi*, or *patu-tuna*, was used for killing eels in the swamps. It much resembled the blade of a sword, being thicker on the back than at the lower edge. They are hardly known to the present Maoris. A fine specimen, black with age and well carved, is figured in this work, which was recently found in an old collection of weapons in England; and there is one,

* P.M., ed. 1855., p. 150.
† Probably the species called by the Maoris *tatere* (see Colenso, "Trans. N.Z. Inst.," Vol. xxiv., p. 447.)
‡ "Trans N.Z. Inst.," Vol. xxvi., Plate li. (see also "Cook's Second Voyage," Vol. ii., Plate xix., Fig. 3.)
§ Edge-Partington, "Album of the Pacific," Plate 383, Figs. 2 and 3 (from specimens in the British Museum.)
‖ Taylor, "Te Ika a Maui," 1st ed., 1855, p. 28.
¶ Angas, "Savage Life and Scenes," Vol. ii., p. 335.

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not carved, in the Auckland Museum. The specimen figured is one of the two weapons (?) mentioned by Judge Wilson as having been dug up in the Waikato.* He says: "In draining a swamp some time ago at Knighton, the estate of S. Seddon, Esq., near Hamilton, Waikato, two wooden swords, believed to be of *maire*, were dug up in a good state of preservation, one two feet, the other five feet below the surface. It would be interesting if we could be sure that these are ancient Maui Maori weapons, although I suppose there can be little doubt about it, for they differ entirely from any weapon used by the New Zealanders when Europeans first came amongst them. A man armed with a *taiaha* or *tewhatewha* would have but little difficulty in coping with the bearer of one of these swords—notwithstanding they are good weapons of their kind. One is a heavy cutting sword, the pitch of the handle bespeaks a circular movement. It has no guard, the length of the handle and size of grasp is the same as an English infantry officer's sword is, or used to be; the length of the blade is ten inches shorter. This shows that the hand it was made for was as large as the hand of a man of the present time. The other sword, also without a guard, is two-edged, and is apparently a thrust-sword."

Through the kindness of Mrs. Ireland, who is the present holder of these specimens, I am able to figure them.

The second implement (mentioned above) is a stick even more rare than the *ripi*. It was used for obtaining fern-root from the soil after the surface had been broken up. It was called a *toki-toki*.

* J. A. Wilson, "Sketches of Ancient Maori Life and History," Auckland, 1894, p. 2 (note).

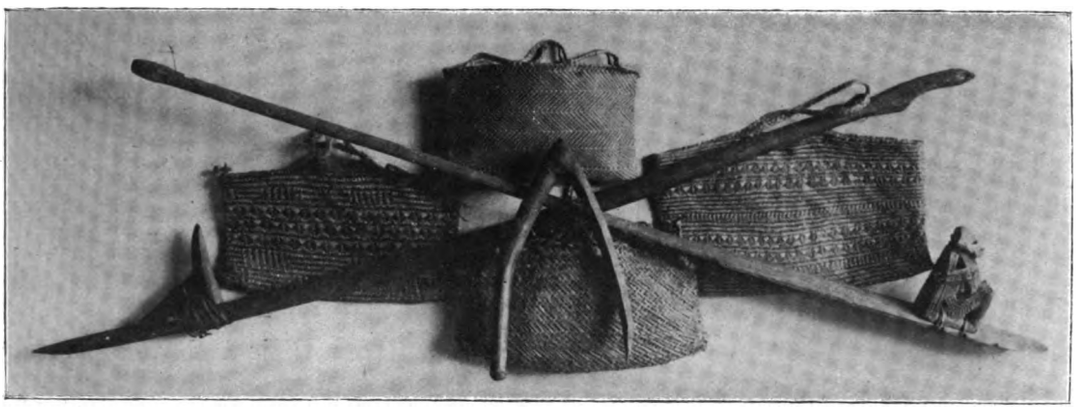
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Shell Trumpet, with Covered Wooden Mouthpiece.

Ornamental Tuft of Feathers from the Kakapo (*Stringops.*)

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Baskets and Implements for Cultivating the Ground.

THE IMPLEMENTS

. . OF . .

AGRICULTURE AND HANDICRAFT.

AN easy transition from weapons of war to implements is found either in the *ko*, or digging implement, or in the large stone adzes used for wood-working or breaking up the ground. For the purpose of preparing a *waerenga*, or clearing, for planting their root crops, it was necessary to have a powerful implement that would tear up the roots of the vegetation which had previously grown upon the spot selected, and in some cases to remove the stumps and roots of small trees. To do this, the Maoris used a long and strong-pointed implement from six to ten feet long, having a width of about three inches in the widest part and perhaps two inches thick. The end thrust into the ground was pointed, and the upper end peculiarly shaped and sometimes well carved. To force the *ko* into the ground, a rest or step for the foot was tied on about 12 or 18 inches from the point, according to the character of the digging to be done. It was tied with strong flax lashings, and sometimes the edge of the *ko* was notched at various distances to prevent the lashings from slipping.

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The step, or foot-rest (*hamaruru*), was carved from wood and generally highly ornamented. It was also called *teka* or *takahi*. Recently a beautiful and unique specimen, worked in a hard volcanic stone, has been dug up near Kawhia.* As the step was easily and quickly detached, the long club-like portion was quickly available as a useful weapon of offence or defence in time of need. The digging of a cultivation ground was generally the work of the whole village—men and women, boys and girls, would form in a line and plunge their *ko* into the ground with both hands, and drive it down by pressure of the left foot on the step as far as necessary, then turning up the sod by leverage. They worked to the sound of a song invoking a blessing on the fruit of their labours, keeping strict time to the words, and thereby lightening the heavy labour of preparing the large areas required for their cultivations.† A huge form of this implement was used as a lever worked by many men to remove the larger stumps. The great stores of fern-root (*aruhe*) required for their winter food were mainly procured with the *ko*. With it they dug up the earth into clods, the loose earth was then removed with wooden spades (*rapa*), somewhat like those now in use, the earth below was then carefully searched for the brittle thick rhizome of the fern (*Pteris esculenta*) with a short thin implement about two feet long, one-and-a-half inch wide and half an inch thick, called a *toki-toki*.‡ A similar implement to the *ko* is in use in the present day in some of the northern Scottish Islands, and it is well known in Peru and in many other parts of the world. Other forms of spades, more resembling the European form, are sometimes made in hardwood, and are carved on the handle. They are called *karehu* or *kaheru*, *tihou*, *puka*, and *hoto*. For weeding the cultivation (*ngaki*) or digging *kumaras* (*hauhake*), a short paddle-shaped wooden implement was used in the northern districts, and also a bone implement about two feet long, with a blade about two inches wide and nearly one inch thick, the part held in the hand being rounded. There is also a wooden form of this weeding-stick called *koko*. Both this and the *tima*, or small hoe, are used by women who squat on the ground at their work. The *tima* is made of hard wood, and is generally a natural bend or knee-shaped piece of wood, shaped like a V, one end of which is pointed. It was used like a small pick to loosen the soil, so as to remove the weeds.

* Now in the private collection of Mr. Eric Craig, of Auckland.

† See a valuable paper on the "Vegetable Food of the Ancient New Zealander" by the Rev. W. Colenso.—"Trans. N.Z. Inst.," Vol., xiii., p. 1.

‡ The only specimen of this implement that I have seen was found in a swamp in the Waikato.

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A large wooden club, or maul (*ta*), was used for driving in stakes, or breaking up large clods of earth.

For splitting timber, wedges (*matakahi*) of hard wood of different sizes were used, called *ora pipi*, *ora whakatangitangi*, and *ora wahi*. They were bound round with flax at the thick end to prevent their splitting under the blows of the maul.

Tools for handicraft of various kinds, such as wood carving, canoe making, house building, and the ordinary needs of every-day life, were not of many kinds. The most important was the *kapu*, *toki*, or stone adze, which was the tool relied upon to provide their houses, their canoes, and all their wooden possessions.* The numerous purposes for which it was used required a corresponding variety in the shape and character of the implement, and this again was conditioned by the material available for its construction. In large collections of stone implements, almost every variety of stone sufficiently hard to take a cutting edge can be found, and series of the various leading forms could be arranged, varying in size and weight from a small one an inch or so long, to a monster 12 or 14lbs. in weight. The degree of finish which they possess also varies greatly, and even the mode of manufacture, some being ground, some being "picked," and some flaked.† They were all used as adzes and not as axes, and mounted on wooden handles at a sharp angle with the handle, and securely lashed with twisted flax lashings. No doubt occasionally they were used as hand tools without the wooden handle. The *poki*, or *toki*—a heavy stone tool used in tree-felling—was, however, fastened to a straight handle three or four feet long (in the manner of a chisel), and held horizontally. A notch was cut round the tree, then another below; the intermediate portion being then cut out by horizontal blows.

For certain work a narrower form was required, and a *whao* or chisel was used; this was mounted in a handle of wood to which it was firmly bound, and

* "Cook could not get the Maoris to sell him any of their stone adzes, so highly did they value them."—"Cook's First Voyage," Vol. iii., p. 464. Their industry with these stone tools is expressed in the proverb, "*He panehe toki ka tu te tangitangi kai*" (a little axe, well used, brings heaps of food)—a great object in the eyes of a New Zealand chief. Some of their stone adzes attained a great reputation, and were regarded as sacred relics, to which were attributed deeds of the mystic past. One of these celebrated stone adzes (called "*Awhiorangi*") was lost for many years, but recovered with many miraculous circumstances in 1888. This axe is reputed to have been brought to New Zealand by the great explorer, Turi, and to have descended to him from the great God, Tane. This axe was also said to have been used to cut the props which keep up the sky. See A.H.M., i, 161.

† The remarks on stone implements made here will be of a general character, as I hope later on (in a supplementary volume) to treat of the "STONE IMPLEMENTS OF NEW ZEALAND," together with such other matter as does not fall within the scope of the present volume.

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struck with a piece of wood or small maul of wood or bone. Both adzes and chisels are sometimes made of the *pounamu*, or greenstone, and small hollow gouges are found which would be fitted with a wooden handle like a chisel. I have seen a few specimens with the two ends made into gouges of slightly different widths, so that either could be used as required. For making a clean sharp cut, a flake of obsidian *(tuhua)* was available, or the sharp edge of a mussel or other shell-fish. The obsidian occurs plentifully in the North Island, and was a great subject of barter; blocks finding their way all over the islands, even to Stewart Island. The varieties of obsidian had distinctive names, and, it is said, were allotted to specific purposes.

Mr. Colenso, in a privately-printed paper, has the following interesting remarks on the common working tools, which, as Cook and others truly said, the Maoris prized beyond everything:—"Most of the common ones, such as the axe, hammer, chisel, auger, gimlet, awl, knife, large spike nail, small nails, &c., took the names of their own similar stone and bone implements; a few others, however, obtained some curious and striking names, as: an iron adze, = *kapu*—lit., palm of the hand, sole of the foot, &c., so named from its curvature. A small axe, hatchet, and tomahawk, = *panekeneke*—lit., strike-and-keep-moving-by-small-degrees! a good expressive name, indicative of their manner of using it in the woods, scrub, &c., clearing before them; formerly no Maori of any rank travelled or moved about without one strung to his wrist; of this useful little instrument they were very fond. A saw and also a file, = *kani*—lit., to cut stone by friction, rubbing to and fro, as they cut their greenstone, &c. A plane, = *waru*—lit., to scrape, cut, &c., give a smooth surface to, as with obsidian, sharp shell, &c. A pincers, = *kuku*—lit., the big mussel shell fish. A grindstone, hone, &c., = *hoanga*—the common name of their own sharpening stones, of which they had several kinds; the common grindstone very often took the additional term of *huri* (= to revolve). A pick, pickaxe, = *keri-whenua*—lit., earth digger. A hoe = *kara-one*—lit., to tear, roughen, pare the ground. A spade, = *puka*, *kaheru*, *karehu*, *hapara*, &c.; this useful instrument bore several names, according to the district and sub-dialect, but its general name in the North was *puka*. At first, and for a few years, this name to me was a puzzler, for I could not find out why the spade had obtained this peculiar name (which was also the name given by the Maoris to the cultivated cabbage).

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I knew of nothing Maori that also bore it. At last I heard from an old intelligent priest that there was a tree bearing a large leaf named *puka*, and thence their name for the spade (and cabbage)! For a long time I diligently sought this plant *(Meryta Sinclairii)*, offering rewards for it; no one, however, had seen it At length I found one (in 1836) in a corner of Whangaruru Bay (S.); its leaves were large, 12—20 inches long and 8—9 inches broad, oblong, plain, entire, with a long thick stem. I suspect *hapara* to be the Maori attempt at pronouncing the word shovel."*

The tools of stone and bone used by the Maoris in handicraft, and for general purposes, may be roughly classified somewhat as follows:—

A.—CUTTING TOOLS.

(*a*). Those acting mainly by direct pressure. Such as the sharp-edged flakes of obsidian† of various colours and qualities produced by a blow on a core or block of obsidian; turtle-backed flaked quartzite knives of several types; and flakes (called by Dr. Von Haast *teshoas*) struck off from rounded beach pebbles of diorite or any suitable material. The sharp cutting edge of the larger sea shells was invaluable as a cutting tool. When used by a professional, or *bonâ fide* mourner at a *tangi*, to make the orthodox cuts and lacerations, the bereaved one would call for the *kuku-moc-toka* (the rock-sleeping mussel), with which to show the visible tokens of her grief.‡ The flattened, almost circular, sharp-edged knives, three or four inches in diameter, made of slate, diorite, and sometimes greenstone, would also come in here. They are usually called fish-knives; but there is no reason that I know of for so doing. Cooked fish does not usually demand a knife of any sort among the less civilized people.

(*b*). Those acting by a blow.

x direct, such as the stone adze *(kapu, &c.)*, in its numerous forms;

x x or indirect, as the chisel or gouge *(whao, &c.)*, and the bone tattooing chisel *(uhi)*.

* Three Literary Papers. Part I.—On "Nomenclature," pp. 19-20. Napier, 1883. Mr. Tregear points out in his Dictionary that, although there is some doubt as to the word "*hapara*" being a genuine Maori word, the word "shovel" would probably have been rendered "*hawhara*." As there is a verb "*hapara*"—to cut—it may be related to that word.

† Mr. John White says: "There are four sorts of obsidian—*tuhua, waiapu, panetao,* and *kahurangi*,—each having its appropriate use, as for cutting the skin at *tangihanga*, for cutting the hair, and for various other purposes."

‡ T. H. Smith on "Maori Implements."—"Trans. N.Z. Inst.," Vol. xxvi., p. 433.

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These may be differently classed when applied in different ways. The stone-adzes were, no doubt, frequently used without handles; and it would be very difficult to draw the line between a chisel and a small adze.

(c). Those acting by friction—after the manner of a saw. The shark teeth set in a wooden handle forming the knife known as a *maripi*, or a *mira tuatini* (used only for cutting up human flesh), would probably be placed here, together with rare specimens of the quartzite flakes occasionally found, which show traces of an intentional notching at the edges—possibly for the purpose of cutting bones into fish-hooks or ornaments. The notches would not be any additional advantage in cutting ordinary flesh.

B.—RASPING TOOLS.

(a).—Those acting by pressure and friction. Under this head can be placed the hard and soft stones (*mania*),* with worn edges, used in sawing blocks of greenstone or diorite, and sometimes bone.

Those fragments of sandstones found in the remains of every old settlement which give evidence of their having been used as rasps or files, whetstones (*hoanga*)†, the polishers, burnishers, and smoothing tools of hard stone, and the sharp flakes of stone or sea-shells for scraping down woodwork.

C.—STRIKING AND CRUSHING TOOLS.

(a). Those acting by a blow, such as hammer stones of convenient size used for reducing the rough block of stone to the general form required for an implement. Short whalebone clubs, used for striking the carving chisel. The small stick used with the tattooing chisel, and the great wooden maul *(ta)*, used to drive in stakes for a fence or a net.

(b). Those acting by pressure and by friction, and having a more crushing effect than the blow of an ordinary hammer, such as the flax-beater used in dressing the flax, or the pounder (*paoi*) used in preparing the fern-root (*roi* or *aruhe*) by beating it on a flat stone.

* Dr. Shortland says that "in the South the Natives fixed these cutters in wooden handles or frames like a stone-cutter's saw."

† For description, see "Trans. N.Z. Inst.," Vol. xviii., p. 25.
Na, ka ki te waka o te hoanga, kia koi, kia koi.—Wohl.—"Trans. N.Z. Inst.," Vol. vii., p. 46.

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Here would also come the stones *(kowhatu)* used for the crushing or grinding the seeds and berries prepared for food, and the stones and slabs used for grinding the red-ochre, or *kokowai*, before it is mixed with oil or fat for paint.

D.—PERFORATING TOOLS.

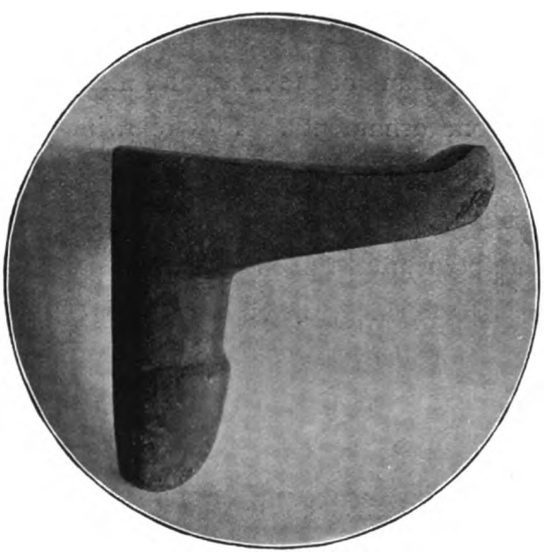
(*a*). Those acting by a blow, such as the small chisels used in the preparation of the carved stern-posts, or in morticing a small hole, may be placed here as indicating this special use.

(*b*). Those acting by friction and pressure will include the large variety of needles, bodkins, awls, piercers, and the bone and stone points used with the drills and boring devices.

The drill (*tuwiri* or *pirori*) was used for drilling the hole for the wrist cord in the stone weapons and through some of the axes, and also in the manufacture of several of the principal greenstone ornaments. The following account of the drill used by the Ureweras has been communicated to me by Mr. Elsdon Best:—"The *tuwiri* or drill consists of five parts—the *pou* or spindle, the *kurupae* or crossbar, the *porotiti* or whirl, the *mata* or stone point, and the *aho* or cords. The *pou* is about two feet long and three-quarters of an inch thick, the *mata* of *kiripaka* being fastened to lower end by lashings of *whitau*. The *kurupae* is about twenty inches long, about two inches wide in the centre where the *pou* passes through it, and then tapering roundly off towards both ends. The *pou* passes through the hole in the centre of the *kurupae* loosely, *i.e.*, so as to leave play for working. The *aho*, of twisted *whitau*, is fastened by the middle to the top of the *pou*, and the ends made fast to either end of the *kurupae*. The *porotiti* is a flat thick heavy disc of wood fastened firmly to the *pou* just below the *kurupae*. The hole in the disc is square, and the *pou* at that part is square, so that the *porotiti* may be made fast by wedges. To work the *tuwiri* the *kurupae* is twirled round so as to twine the *aho* or cord round the *pou*. The *mata* is set on the material to be bored. The twining of the *aho* round the *pou* of course raises the *kurupae* up the *pou*, up which it slides easily. A downward pressure of the hand on the *kurupae* now causes it to slide back down the *pou* and unwinds the cord; the momentum increased by the heavy disc causes the cord to wind round the *pou* in an opposite direction, again raising the *kurupae*, and so on

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The hand of the operator is kept on the *kurupae*, but the downward pressure only is needed, the momentum lifts the *kurupae* as the cord re-winds on the *pou*. In such work as grooving a greenstone *tiki* only one hand is used on the *kurupae*, but in boring *patu*, both hands are used to press the *kurupae* down—one on each side of the *pou*. Sand and water were used with the *tuwiri* to cause the *mata* or drill point to bite."*



Step of a *Ko*, or Digging Implement. Carved in Stone.

* Mr. Chapman has figured in the "Trans. N.Z. Inst.," Vol. xxiv., p. 496, pl. 38, the *pirori*, or drill, given by Dr. Shortland in his "Southern Districts of New Zealand," as being in use in the South Island in 1842; it is balanced, or weighted, by two stones instead of the *porotiti*, and is worked with a cord on a different principle. Rev. Mr. Wohlers mentions, however, the fly-wheel of the drill used in the extreme South. (See also "Trans. N.Z. Inst.," Vol. xiii., pp. 70-71., and Vol. xii., p. 93.)

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Ornamental Carving. Berlin Museum.

THE SNARES AND IMPLEMENTS

. . USED IN HUNTING . .

RATS AND BIRDS FOR FOOD.

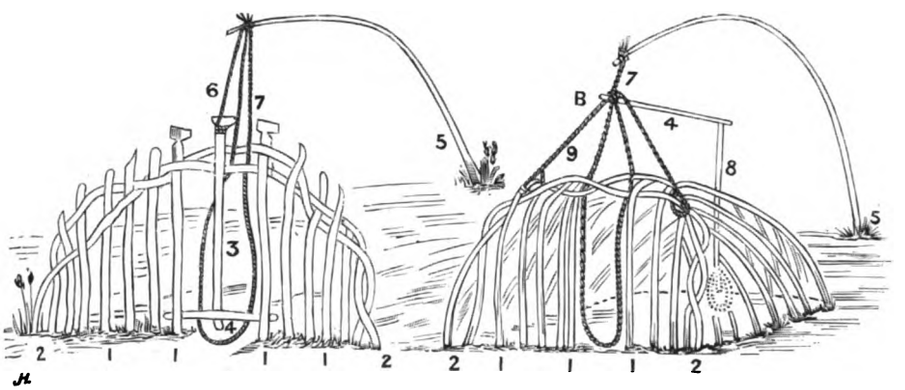
HUNTING in New Zealand was not of an exciting nature. It was purely a search for such of the native birds as were available and in good condition, and for the small rat which inhabited the dense forests of New Zealand. To be an expert at the various methods of procuring rats and birds was always the desire of the young New Zealander, so that he might be admired by the women, not only as a gallant warrior, but as one who could contribute largely to the food supply of the *pa*. Much patient ingenuity was shown in the methods of catching birds, and but little has been recorded of the details of the art, which, like the arts of war, received a great blow on the introduction of fire-arms. The rapid alteration in the mode of life, consequent on the arrival of the *pakeha* with his ships and strange foods, caused the old hunting grounds to be neglected, and a new generation arose that knew little of the habits of the birds in the dark recesses of their forest home. In some far remote districts a few isolated communities still set their snares and traps, as did their ancestors for hundreds of years before; and it is from some of these learned men that the following particulars have been gained:—

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RATS *(Kiore)*.—A good rat-preserve was frequently a subject of contention as a much-prized source of food; and at the proper time of year parties went to the best places for setting the springs or traps used for the capture of the rat.

To catch the native bush rat, traps (*tahiti kiore*) of an elaborate nature were built in suitable parts of the forest—usually on a well-known rat track (*ara kiore*) on the top of a dry ridge or spur of the mountain. If it was built in the line of a regular rat run, no *pea* or bait was necessary; but if no regular track was available the *poa* (the fruit of the *patete*) is placed on the ground so that the rat cannot get at it without passing through the loop of the snare.

In making the snare two long thin branches or twigs are twisted together, and the ends stuck into the ground, forming a small arch. These are the *rupe*, and are fixed. In twining the one with the other, care is taken to leave an open space at the top of the arch, against which the rat is forced when the trap is sprung.



Diagrams of Traps for Bush Rats used by Maoris near Lake Waikare-moana.

1. Turuturu. 2. Rupe. 3. Taratara. 4. Kurupae. 5. Whana. 6. Aho. 7. Tohe. 8. Katara. 9. Whiti.

To set the trap the *whana* is bent down, and the *taratara*—a small stick attached by a string to the *whana*—is fixed by the end of the *taratara* being slipped on the opposite side of the *rupe* to the string, the *rupe* being in the fork of stick and string. The *taratara* is kept in place by the *kurupae*, which is not fastened, but kept in place by the pressure of the *taratara*, which has the strain of the *whana* upon it. The *kiore*, in trying to force its way through, pushes the *kurupae* down, thus releasing the *taratara*, and hence also the *whana;* the *whana* flies up, drawing the *tohe*, or loop, between the two *rupe*, and jamming the *kiore* against the *rupe*.

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The two centre *turuturu*, against which the *kurupae* rests, are stuck between the *rupe;* the outer ones are outside the *rupe* in most cases.

The *whana* is a *pirita* (supplejack) (*Rhipogonum parviflorum*), or long springy stick, stuck in the ground, and bent down to set the trap.

Sometimes the *tahiti* has two snares; then it is termed a *waharua.*

When the rats are found to be very cunning, a modification is made in the way of setting the snare, by having a little house, or *rua*, for the bait *(poa)*, about eight inches long, into which the rat must enter. This form of snare is called *pokipoki*. In it the *tohe* is knotted at B to take the strain of the *kurupae*, which passes under the string called *whiti*, and the other end rests on the *katara*. The *katara* passes through the mound, or house, and the *poa* is fixed on to the end of it inside the *rua*. When the *kiore* enters and pulls, or disturbs the *poa*, the *katara* slips aside and releases the *kurupae;* the *whana* then flies back and tightens the noose, as shown before. The *turuturu* are stuck between the *rupe*, and bent back over one *rupe* until the ends rest on the ground to form the *rua*. The sloping parts are covered with *wharangi* leaves; the whole is then covered with earth.

I am indebted to Mr. Elsdon Best for the details of the method of snaring rats in the forests of Tuhoeland around Waikare-moana; and from an excellent article written by him, and published in a newspaper,* I take the following account of the ceremonies connected with the preservation of birds for food. He says:

"The principal birds used as food were the *kaka*, *kereru* (pigeon), *koko* (*tui*), *kiwi*, *kakapo*, *tihe*, *rearea*, *tieke*, *porete* (paroquet), together with the *pihere* and other small birds. In former times birds were very numerous in the great forests, and it is said that when these great numbers all sang together at daybreak, and as darkness fell, the voice of man could not be heard in the land. There is a special word *(ko)* to express the singing of birds at these morning and evening concerts, which were known as the *Mara o Tane*. A term used to denote the time when birds were so numerous is *rarangi tahi*—it means 'the last great rallying of *kaka* and other birds on the hill-growing *rata*, at the time when the valley *rata* is out of bloom.' The

* Elsdon Best, *Canterbury Times*, April 13, 1898. Forest Lore, No. II.—"Sketches from Tuhoeland."

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different kinds of birds are seen all together on these trees, and being very fat are easily speared without the trouble of snaring them. Trees whereon birds were speared by a person concealed among the branches were known as *kaihua*, and such trees were famous for all time, each having its name, such as *Hinamoki*—a *matai* tree, near Okarea, and *Heipipi*—a *kahika*, near Te Weraiti. Also, they were often used as landmarks and boundary posts, as in the case of *Hinamoki*. Two reasons are given by the natives for the wholesale disappearance of birds from the forests, lakes, and streams. The one is that the hollow trees formerly used as breeding places have been occupied by bees, and thus the birds have nowhere to go for that purpose. The other reason given is that the *mauri* of the forests has been *tamaoatia*, or desecrated by the introduction of *pakeha* customs. In former times, when going bird-hunting, no cooked food was allowed to be carried by the fowlers, inasmuch as it would desecrate the forest and destroy the virtue of the *mauri* or talisman thereof. To carry cooked food through the forest during the bird-taking season would be the means of driving all the birds away to other lands—*ka tamaoatia te mauri*. Fernroot in an uncooked state might be carried, and a portion cooked for each meal; but the hunters must not carry away any surplus of the cooked food—it must be left where cooked. As a *kinaki*, or relish for the fernroot, a few birds would be taken by means of the *pepe* or 'call leaf.' During the first part of the season—that is, until all the birds to be kept for after use were rendered down before a clear fire, boned, and placed in calabashes—no birds may be cooked in the daytime, but only in the evening; otherwise the birds would surely desert the forest, and be heard flying away in myriads at night. Another action that had the same effect was known as the *tawhanarua*, which means to cook birds a second time. If, when a *hapi manu* (oven of birds) is opened they are found to be underdone, on no account must they be cooked a second time, but must be eaten in the state they are. Also, the cooking of birds in the *kohua* (pots) of the white man was most disastrous, as the birds were *tamaoatia* by it, in the same way that men were destroyed by washing their heads with water heated in a cooking vessel—at the instigation of the missionaries. The *mauri* or *kawaora* of man was made common; he was rendered *tapu*-less by that rash act. The *mauri* of man is the sacred life principle, and that *mauri* having been *whakanoatia*—or made common by command of the missionary—the result is that the Maori is fast disappearing from the face of the earth; such is the belief of the Maori, and nothing will turn him from that belief. Tikitu, of Ngati-awa, said,

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'Birds were numerous so long as we cooked them in the ancient manner—that is, in the *hapi* (steam earth oven), but when we commenced to cook them in the iron pots of the *pakeha* (Europeans), then it was that the evils of the *tawhanarua* came upon us.'

"Now, the reason why it is dangerous to interfere with the talisman of a forest, and why birds have to be treated so carefully, is this:—*Tane-mahuta* is the god of forests and of birds, and the trees and birds represent that *atua*, trees being spoken of as the children of *Tane*, and the forest as the great sacred forest of *Tane*. Hence, both trees and birds must be treated with due respect, and the customary rites duly performed when dealing with them. The forest *mauri* is a kind of talisman, rendered sacred and endowed with strange powers by the *karakia* (invocations, spells, incantations) of the priests. Its purpose is to protect the forest, to attract birds from other lands, and to prevent the birds of the tribal forests from forsaking them or being charmed away by enemies. It is the protecting power or guardian spirit of the forest, and is carefully concealed and guarded lest it be discovered by an enemy. The *mauri* may be represented by a variety of things. It is sometimes a stone—as in the case at Rangitaiki, where the *mauri* of that river is a stone near which the first fish of the season are taken. The stone which represents a forest *mauri* is usually concealed at the base of a tree, and the emblem is generally protected by a lizard, known as a *moko-tapiri*, which is placed to guard the sacred talisman. The *mauri* of a forest protects also the fish of the streams and lakes of that forest. In some cases the *mauri* is represented by the *kira*, or long wing feathers of the *kaka*, those of the right wing alone being used—the left wing has no *mana* (prestige)—the *kaka* being looked upon as the chief of birds, and far more highly prized than the pigeon. It was the *kaka* that brought the *mana* of Hawaiki to this country. The *kira* are duly endowed with the necessary powers and sanctity by the *karakia* of the priests *(tohunga)*, and will then be carefully hidden as shown, and only a few of the principal people, priests, or chiefs, are allowed to know the place of concealment. All forest foods will be protected by this *mauri*, and flourish exceedingly well; it also protects the tribal lands from spoliation by an enemy. Should enemies attempt to interfere with such lands, forest or birds, they can do no harm unless they discover the concealed *mauri*, in which case they would acquire the *hau* of the land, and thus be able to work incalculable damage. *Hau* is

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a term difficult to translate or express; as in the case of the *mauri* there is no English equivalent. The *mauri* of man is the breath or spark of life; the *hau* of man is the essence of his being, a kind of ethereal essence or ichor, non-visible and intangible as matter, although it can be conveyed by the hand. If a man's *hau* be taken by witchcraft, he dies at once—his *mauri* cannot save him, cannot hold life in his body. In like manner, the *hau* of land is the very essence of such land, and if taken by an enemy the land dies—that is, so far as its original owners are concerned. Thus the utmost care is taken to conceal the *mauri*, or representation of the *hau*. Only a *tohunga*, or priest, can discover the *mauri* when thus concealed. To discover the *mauri* the priest will proceed to the forest, and, taking a stand at some part thereof, he recites the first part of the *karakia* known as *Kahau* :—'*Ka hau ki uta, ka hau ki waho.*' Hearing no sign he faces to another point and again repeats the above words, and so on until he happens to face in the right direction—that is, in the direction of the *mauri*. When he launches *(wero)* the invocation in that direction the *moko-tapiri*, guardian of the *mauri*, will commence to chatter after the manner of its kind, and thus the *mauri* is found—that is, if the priest be near enough to hear it.

"Should, however, the gods favour the *tohunga*, and he hears the chirping of the *moko*, he then repeats the rest of the *karakia* :—

"'*Tohi mauri, tohi tiaki*
Wetekia te hau e here nei i te mauri
Homai ki au kia whangaia ki te toa,
Ki te ruwahine.'

"The *mauri*-seeker is now jubilant, for he knows full well that he holds his enemy in the hollow of his hand.

"The following is a *karakia* which appeals to *Rangi* and *Papa*, or Heaven and Earth—the world-old progenitors of the human race—to uphold and protect the *Mauri* of *Tane*—that is, the forest *Mauri*—and to cause birds to be plentiful :—

"'*E Papa e takoko nei, E Rangi e tu nei*
Homai te toto kai tangata kia rurukutia, kia herea
Kia mau te mauri. Te mauri o wai? Te mauri o Tane
Tane-tuturi, Tane-pepeke. Whakamutua kia Tu-mata-uenga
Whakamutua kia Paia, nana i toko te rangi
Na Tu-mata-uenga i here te kai.'

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"These ceremonies being duly performed, the men are free to go bird snaring and fishing—the season is open—but still the various restrictions in regard to food, evil omens and other matters were far more strict and effective than the by-laws or rules of any acclimatisation society.

"The sacred fire—known as the *Ahi Taitai*—is a most important element in the wellbeing of the tribe and tribal lands. At this holy flame are performed all sacred rites pertaining to the tribal lands and home, the establishment of forest *mauri*, first fruits offerings, with many others. It is not used for purposes of witchcraft, the *ahi whakaene* being devoted to that dread art, while the *horokaka* is the fire utilised in connection with ceremonies performed over war parties. The *ahi taitai* is the *hau* or *mauri* of the village or settlement, and it is the protecting power thereof, as the forest *mauri* is of the forest and its occupants. It is kindled by the head priest, who procures a *rearea* bird *(korimako)* and roasts it at the fire. A portion of this bird is suspended near or over the fire while ceremonies are being performed, after which it is taken down and buried as an *ika purapura* (or *manea* or *taitai*) which is the emblem of the *hau* of the people and their home. By thus concealing the *hau* of people and homesteads, both are preserved from the machinations of sorcery, and a man can then go with a light heart, for he knows that his *hau* is safe; that is, the *ahua* of his *hau*, the real *hau* or intellectual essence of his being cannot leave his body, or the body would die; it is the *ahua*, or semblance (an immaterial symbol of the very essence of life—the essence of an essence) that is conveyed to the *ika purapura*, as it is the *ahua* of a man's *hau* that is taken by sorcery, in order that he may be bewitched. The symbol or material token of a man's *hau* is a piece of his hair or shred of his clothing, and this is taken to be subjected to certain *karakia* in order to destroy him. This symbol is then known as a *hohona (? hohonga)*. The human sacrifice made at the dedication of a new house and buried at the base of the centre post thereof is also used as an *ika purapura*, the bones being disinterred and taken to the *tuahu* or sacred place of the settlement. The incantation used at the *ahi taitai*, when the *ika purapura* is being imbued with the sacred *hau* of men and land, is termed the *Here* of *Maui*.

"The remainder of the bird cooked at the *Ahi taitai* is eaten by the priest, if he is of sufficiently high standing in his profession; if not, it is impaled upon a tree

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that *Tane* may consume it—that is, it is offered to the god of forests. It will thus be seen that the *ika purapura*, or *taitai*, is the *mauri* of the tribe and tribal home, as the *kira*, &c., are the *mauri* of the forest. Another receptacle for the *hau* of a tribe is the *ahurewa*. This is a form of *tuahu*; it is a long stick or pole, which is placed in the ground at the sacred place of the settlement. This stick is the emblem of the *ahurewa*. To save oneself from being brought under the influence of witchcraft—that is, to save one's *hau*—all that is necessary is to take a piece of one's hair as a symbol of the personal *hau*, and bury it at the base of the sacred post with appropriate *karakia*. It is not necessary to use a material symbol, as one may take the *ahua* of one's *hau* and bury it at the *ahurewa* with equally good results if the ceremony be properly conducted. In like manner the *manea*, or *hau* of the human footstep, can be taken, and the careless traveller slain thereby; thus it is well in travelling through an enemy's country to walk as much as possible in the water, and thus outwit the wily *hau*-hunters.

"The *whata-puaroa* is another institution in connection with the *ahi taitai*. There are two *whata-puaroa*, each being represented by a post set up at the *tuahu*, or sacred place, of the village. Each has a special duty to perform, one being to preserve life and the other to destroy it. It is on the *whata-puaroa* that represents life that the bird offering of the *ahi taitai* is often placed, the said bird representing *Tane*, and which is subsequently buried as an *ika-purapura*. At this *whata* also the *ahua* of the people is placed as a *mauri*, it being also buried, or, as a Maori would say, 'planted,' like the material bird. With the *ahua* of the people is also placed the *ahua* of the land, usually represented by a stone or branchlet, and thus the *mauri* of land and people is as one. The *whata puaroa*, which represents death, is where ceremonies are performed in order to destroy man by witchcraft, and is said to be as efficacious as the *ahi whakaene*, or the deadly *rua-iti*. It is to this *whata* that the *manea* or *hau* of the human footstep is taken and left there until the *mara-tautane* is planted, when it is taken to that most sacred spot, and, together with a seed *kumara*, is buried underground with appropriate *karakia* of dread import, that slay man as surely as do spear and battle-axe.

"The first-fruit ceremonies are also performed at the *Ahi taitai*, or the *Ahi rau huka*. The first birds taken are offered to the gods. The birds caught in the

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first *rau-huka*, or snares, set, were cooked at the *ahi taitai* in an oven called *hapi-rau-huka*, and eaten by the *tohunga*—thus having the effect of taking the *tapu* off the birds. Some of the first made *rau-huka*, or snares, are cast into the sacred fire, presumably as an offering. These first *rau-huka* are prepared by the priest, and in some cases are used as a *hau* or *mauri* of the tribal lands in the same way that the *kira* is, being carefully concealed. Great care is taken in preparing the *rau-huka*. The leaves selected, after being split into strips, are dried, and then soaked in swamp water where there is dark-coloured mud. This is to give them an old appearance, for the birds would not approach them if they were left in their natural colour. The same effect is sometimes produced by hanging the *rau-huka* in the smoke from burning *mapara*, the resinous wood of the *kahikatea*. Each strip is then formed into a loop-snare, and numbers of these are suspended from a cord *(kaha)*. The burning of the *rau-huka* in the *ahi-taitai* is supposed to bring good luck to the fowlers. The *rau-huka* are prepared in a house styled the *whare mata*, which is highly *tapu* for the time, and neither food nor women may be allowed within it. This house is used for the purpose of preparing all snares, nets, &c., for taking birds and fish. While the *rau-huka* are being fixed and the various rites performed, the participants therein may not go to their homes nor live with their families. The *rau-huka*, or snares, when prepared, are subjected to a *karakia* bearing the same name. The eating of the first-taken birds (cooked in an oven called *hapi-rau-huka*) by the *tohunga*, or officiating priest, lifts the *tapu* from the *whare-mata* and its occupants, who may now return to their families.

"The *Taumaha*, or thanksgiving *karakia*, is then repeated, the fattest of the birds are then cooked for the women, and after that others are cooked for the men. At this time also are repeated the *karakia* to attract many birds and fish to the tribal lands :—

I.

" ' *Te manu ruru mai, ruru mai, neneke mai*
Ki te pae runga, ki te pae raro
Te manu te ruru pae, te noho pae
Te manu kai te whio, kai te kati, kai te koiri
Kai te ioro nui no nga.'

II.

" ' *Te manu kai toroti, kai torota*
Kai toro atu rama kia Tane
Te manu te ruru pae, te noho pae, &c., &c.'

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"These charms are repeated before the first-fruits are cooked, and the manner in which the priest eats the first bird is somewhat peculiar, inasmuch as he may not touch it with his hands, but must pull it off the spit with his teeth, and gnaw it as it lies on the ground."

"The matter of the *tuapa* is another trouble to encounter when the bird-taking season opens. The *tuapu* may be termed a 'luck-post'—*he mea arai puhore*—a thing to ward off ill-luck.* It is a slab of timber adzed down, and set up or erected near the *kainga*, about four or five feet appearing above the ground. It is not concealed like the *mauri*, and it matters not should it be destroyed by an enemy, another one would be set up. Thus it will be seen that it has not much *tapu* attached to it, its only innate power being to give *mana* to the simple ceremony performed at it—*kia mana tonu nga mahi*. This post is not carved, but is painted with *kokowai* (red ochre). The *tuapa* is quite distinct from both the *mauri* and *uruuru-whenua*. The people of the land meet together, the directing priest says: 'Let us erect a *tuapa*, that the *tumanako* (desires) and *tuhira* of man may have no effect and fail to bring ill-luck to the hunters and fishers, who go forth to procure food.' The tribe consents, and the *tuapa* is erected, and is used by succeeding generations. When the people go forth to hunt or fish they visit the *tuapa*. Even the women are allowed to perform this ceremony, although they are not allowed to visit the *mauri*. Each person has in his or her hand a branchlet or a splinter from the *rama* (torch used in taking *kokopu* at night). The first is the bird-hunter's offering to the *tuapa*, while the fishers give the fragment from the torch. The bird-hunter touches his spear *(tao)* or *kete rau-huka*,† with the branchlet, and throws the latter at the base of the *tuapa*; the fisher touches his net or *puwai* (fish basket) with the pine sliver from his torch, and casts the splinter after the branchlet at the *tuapa*, where they are left lying. As each throws his offering at the base of the *tuapa*, he repeats this charm:—

"'*Nga puhore nei, nga tumanako nei, nga tuhira nei*
Ki konei koutou putu ai
Arai puhore
Whakawhiwhi ki te tama-a-roa.'

* There are also the *tuapa tamariki* and *tuapa tupapaku*, connected with birth and death ceremonies.

† *Kete rau-huka*: the basket in which bird-snarers carry the snares.

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"We will now look at the purpose of this singular ceremony and charm, and learn what benefits are to be derived from the *tuapu*. There is a large class of grievous evil omens (of non-success) always hanging over the heads of hunters, fowlers, and fishers, which omens are known by the generic term of *puhore*, though divided into many subdivisions. One of these is known as *toitoi-okewa*, and which may be explained in this manner:—A number of men express their intention of going pig-hunting; presently someone says: 'If we secure some good tusks I will make *aurei* (cloak-pins) of them.' Now, that is a *toitoi-okewa*. The man is actually foolish enough to speak of the pigs as already captured and killed, at a time when they are yet afar off and possessing life and strength to run away; in fact, 'he counts his chickens before they are hatched,' which is a *pakeha puhore*. *Tumanako* means to earnestly desire some absent object, while *tuhira* is a singular expression applied to a man who is indolent and fond of good living, but prefers to let someone else procure the food he desires. Should you ask a Native the meaning of the word *tuhira*, he will reply at once, '*He mangere*' (laziness), but it means more than that: it is applied to a person who does not exert himself to hunt or fish, but who much appreciates the fruits of the toil of others; he is always partaking in anticipation of such fruits, while they are still at large and can escape. The term does not apply to a person who is lazy at procuring firewood, &c., for the firewood has no power of locomotion, and therefore cannot escape; the word *mangere* would here be used. Even if a man talks about the firewood he is going to procure, that is not a *toitoi-okewa*, for the same reason. '*Ou mahi a te mangere he tuhira*' is an expression used to denote the indolent but dangerous individuals who stay at home and indulge in *toitoi-okewa*. The purpose of the *tuapa* is to ward off the *puhore* or omens of bad luck, and to annul the effects of the desire spoken and unspoken of the people who indulge in *tumanako* and *toitoi-okewa*. Still another in connection with bird-snaring. In telling you to go and examine your snares I would not use the ordinary word *titiro*, for that would be a *puhore*. I should be speaking of birds which are not yet killed. The word *matai* must be used at such a time. Also, in telling you to go and take the birds from the snares, I could not use the common term *wetewete*, for that also would be a *puhore;* the word *wherawhera* must be used here."

The largest flying bird of the New Zealand bush that was taken for food by the Maori was the beautiful pigeon *kereru* or *kukupa* (*Carpophaga Novæ Zealandiæ*.)

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It afforded them a substantial addition to their vegetable food, and could be found wherever the forest trees bore their ripe fruit or berries. It is also very tame, remaining a long time in one place, sunning itself on the branch of a high tree. Tamati Ranapiri has given an excellent account of the methods used by the Maori in obtaining the pigeon and other birds;* and from the translation of his paper by Mr. S. Percy Smith most of the particulars of the following descriptions are taken. He says: "There are three methods used for catching the pigeon—the first is the *tutu*, the second the *ahere*, the third the *tahere*. The name *tutu* is applied to an erect-growing tree, in the branches of which a stage is formed, on which sits the person who uses the apparatus for catching the *kereru*. At the time of the year when the fruits of the forest are ripe—such as the *whanake*, or *ti (Cordyline Australis)*,—large numbers of *kereru* may be seen flying about, and eating fruit. When they take flight they are like a swarm of bees, flying round and round above the trees, occasionally alighting. This is their constant habit, so long as that fruit lasts. So soon as the *kereru* commences to fly about in this manner, all the men of each *hapu* (sub-tribe) possessed of pluck, strength, and knowledge who live in the neighbourhood —that is to say, the native people of the place—decide to make *tutus* to catch the *kereru*. They search out a tree that has a suitable top or crown *(tihi)* with inwardly-inclined branches, and where the surrounding trees have projecting branches. When one is found it is prepared for a *tutu*. In case there is no vine or creeper adhering to the tree, by which to ascend, maybe another suitable one close at hand will be found to serve the same purpose, from which a stage (or ladder) can be made to connect it with the tree used as a *tutu*. Should no such tree be available, the *tutu* tree itself has a ladder lashed to it, reaching right up to the branches. As soon as the tree can be ascended, poles are cut below and hoisted up the *tutu* tree to form a stage on which one or two persons can arrange the *pouakas*. The *pouaka* is a wooden rod, carefully made, about 5 feet long, 2½ inches wide by 1 inch thick. Three or four of these are used. They are tied to different branches, directed upwards in an upright position, so that the upper end of the *pouakas* project above the topmost branches, where they are used to attach the *tumus*, or parts on which the *kereru* is caught. The *tumu* is very carefully adzed into shape, and to it is attached the *aho* (cord) made of *muka* (scraped flax), by which the feet of the *kereru* are snared. The cord forms a noose, spread on the *tumu;* the long end of

* Tamati Ranapiri, "Ancient Method of Bird-snaring Amongst the Maoris."—"Journ. Pol. Soc.," Vol. iv., p. 143, with four illustrations.

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the cord passes through a hole in the *tumu*, thence down the side of the *pouaka* to the hand of the snarer, who, as soon as the pigeon alights, by a quick pull, tightens the noose and catches the bird. If the birds are plentiful as many as 200 may be caught in this way in one day."

The Maoris have a way of splitting the birds that are thus obtained, and taking out all the bones (*makiri*), and then preserving them in their own fat (*hinu*) in calabashes for at least a year. A mouthpiece, well carved, is fitted to the calabash; a *kete*, or basket of split flax, is placed round the calabash, to preserve it from injury, and it is either hung up by the numerous loops and handles of the *kete*, or has a frame made for it with three or four legs in which it stands. Some of these store calabashes (*taha*) for potted birds are of great age and highly valued.

"Another method of snaring the *kereru* is by the *ahere* or *mahanga*, or snares. When the *miro* tree (*Podocarpus ferruginea*) is in full fruit, large numbers of *kereru* assemble to partake of it. The *miro* fruit very quickly fattens the birds, and at the same time it induces great thirst. A short time before the ripening of the fruit the people proceed to the forest to ascertain what trees will be well fruited. When they discover one they commence to make the *wakas*, or *kumetes* (troughs to hold water), or to seek for appropriate wood to hollow out for that purpose. Before the *kereru* begin to visit the *miro* trees the *wakas* are filled with water; some are suspended in the branches of the tree, firmly fixed to prevent their falling. When all this has been done, and the *wakas* filled, they are left so that the *kereru* may see and drink from them, and become accustomed to them. So soon as this is accomplished the snares are prepared, and placed along the margins of the *wakas*, as well as on such branches of the trees as are suitable for the same purpose.* The snares are running nooses, side by side, placed all round the trough, so that the pigeons cannot get at the water without putting their heads through the nooses, and, in withdrawing, they are caught by their feathers, and thus the birds are strangled. In travelling through the forest, and on finding a pool of water, a knowing man at once examines the adjacent trees, and if he finds the scratchings made by the feet of the *kereru* thereon, he knows that the pool is used by them to drink from, and at once proceeds to place his snares around the water. One single person often has six or seven *wakas*, or troughs, or even more, and three or four trees are prepared by him.

* Plate No 2 in the "Journal" shows the way they are arranged so that a bird must put his head through a noose to get at the water. This *wai-tuhi* method is the favourite way of taking pigeons in the Tuhoe Country.

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"On the first day of setting the snares, from morn to night, none of the birds caught that day are taken from the snares; but they are taken out on the following day.* This is the custom of the ancestors of the Maoris from time immemorial. No one is allowed to make any disturbance in the vicinity of these operations—to split firewood, &c., or other similar noise—during the day, lest the *kereru* should take flight to some other spot; but in the evening one may split firewood, or do other work. Whilst engaged in this work the people sleep in the forest near the snares; some are there to carry the birds to their home. This system of killing pigeons secures larger numbers than any other: one man will obtain two, or even three, hundred in a day, according as the birds are plentiful or not that year. So soon as the *miro* fruit has fallen the work is at an end, for the birds cease to frequent the trees.

"The third method of taking the *kereru* is by the *tahere*, or *here* (by spearing). The *here*†, or spear, is a long piece of wood carefully prepared; it is usually made of *tawa* wood (*Nesodaphne tawa*) from a carefully-selected, straight-grained long piece easily split; it is as much as 30 to 35 feet in length. A young and soft *tawa* tree is selected, cut down, and cut to the proper length, and split into long lengths, so that two or three spears can be obtained from the same tree.‡ It is then carefully adzed down to the thickness of 1¼ inches in the middle, tapering off to ¾-inch near the end, then scraped nicely to be quite smooth and straight, and then fitted with a *tara-kaniwha*, or barb.

"The barb is made of bone, one end of which is sharpened by scraping, and one side is serrated (*kaniwha*) in order to hold the bird when struck. After the barb is finished it is bound on to one end of the spear, and is then ready for spearing birds in the forest. The *kereru* is speared in the season when the *whanake* and *miro* are in fruit; a spear and snare are used at the same period. It is also speared

* This practice is not known in the Urewera Country. There the first two or three birds caught are cooked on a spit (*huki*) at the *ahi taitai*, for the priest or *tohunga* to eat; the birds are then *whakanoa*, or made free from *tapu*. The *ahi-taitai* is the sacred fire of the *kainga*, or settlement. Portions of the birds cooked for the priest are buried in the ground as an *ika-purapura*, or "seed-fish," or offering to the local divinities. In some cases the offering is placed in a hollow tree, or on a branch. When eating the bird the priest must not touch it with his hands. After this has been done a *taumaha*, or thanksgiving, is repeated, and *karakia* to collect the birds and ensure a plentiful season.

† *Here* is not used for a bird spear by the Tuhoe people—only *Tao*. The barb at the point is called *makoi*.

‡ The amount of work entailed in the manufacture of a bird spear is expressed in a proverb, which says—

"*Kahore he tarainga tahere i te ara!*" (You cannot hew a bird spear by the way).

Mr. Colenso gives a description of the method adopted in the olden time in making one of these long bird spears; and states that it was occasionally worked through guide rings fastened in suitable places, so that the point of the spear commanded the usual perching place of the birds.—"Trans. N.Z. Inst.," Vol. xxiv., p. 451. The guide rings are not now known in the Urewera Country.

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when the *koroi* or *kahikatea* (*Podocarpus daicydioides*) and other trees are in bearing. The proficient in the art of spearing does not seek to secure the *kereru* with the barb of the spear; but after spearing the bird he withdraws the point of the spear, and allows the bird to fall to the ground. He well knows the vital parts, which, once touched, the bird dies. When the time comes that the fruits mentioned are ripe, the knowing man climbs up such a tree, and there remains. When the *kereru* comes to feed it is speared, and falls to the ground. This method of obtaining birds does not secure so many as that by means of the *tutu* or of the *tahere*; it is only in plentiful years that slightly more are obtained; few birds, result in few being killed by the spearman. The spearing is not confined to the *kereru*, but is used for all birds that feed on tree-fruits—for the *kereru*, the *kaka*, the *tui*, the *kokomako*, the *kokako*, and others.

"The large native parrot, or *kaka* (*Nestor meridionalis*), is taken in two ways. The first is by the *tutu*, the second by the *taki*. The method of *tutu* is exactly the same as that used for the pigeon; but the season is different. That for the *kaka* is when the flowers of the *rata* bloom, and the *kaka* are sucking the nectar *(wai)* from them. The *tutus* are the same for the *kaka*, but they are used with a decoy (*timori*), with a tame *kaka*, which is used to call the others to the tree. The snarer places himself on the *tutu* with his pet bird, which remains on his *turuturu* or perch, with his basket (*kori*) of food hanging on the perch. The *turuturu* is a piece of wood just like a spear as to thicknesss and length—*i.e.*, a spear used to spear man with; not a walking stick. It is hewed out of *maire*, *manuka*, or some other hard wood, in order that it may be sufficiently hard when bitten by the decoy *kaka* to prevent its chipping. The *kori*, or basket, is woven in the same manner as a fishing net. Now, when the man ascends to the *tutu* with his decoy *kaka*, he causes the bird to cry out, to entice the others to the place. They alight on the *tumu* of the *tutu*, and and are then caught by drawing the cord tight. The season when the *rewarewa* (*Knightia excelsa*) flowers, that is another time for taking the *kaka*.

"The second method of *kaka*-taking is by the *taki*. The *taki* is a long pole as much as 25 feet long (more or less), with a thickness of two inches. This pole is stuck in the ground in a slanting direction; whilst at its foot is built a hut of tree-fern fronds. The pole is slanted in order to facilitate the descent of the *kaka* along it when the fowler or the decoy-bird calls them. In the event of a decoy-bird

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not having been secured, a man understanding how to call the birds will remain in the hut built at the foot of the *taki*, and thence calls the *kaka* by his voice (imitates their cry). When the birds hear the call they approach and alight on the *taki*, whilst the man continues his call in order to induce the *kaka* to descend along it until they arrive in front of him. The habit of the bird in descending along the *taki* is to turn from side to side, first on one side of the *taki* and then on the other, until it arrives in front of the man within his hut. Immediately the bird turns away his head to the far side of the *taki*, it is caught by the man placing one hand over one wing, another over the other, and he then carries it into his hut. So soon as one is caught it is used as a decoy, and by its cry calls others. It is only very skilful persons who can succeed in catching *kaka* by this method, because the *kaka* is a bird of great sense and very shy.

"The fowler goes forth to the forest with his tame *kaka* to catch birds with the *taki*, the setting up of which is finished as well as his fern-tree frond hut, and the decoy-bird deposited at the foot of the *taki* close to the hut, one end of the pole being within the hut in order that it may be close to him to incite the tame bird to cry out, and to bite that which is given him to bite. When the *kaka* near hear the crackling of the thing bitten, they are deluded into thinking it is some seed in the ground that the decoy is biting, when they look down and see the decoy digging (with his claws) in the earth, they think there are a great many seeds, and directly begin to descend the *taki*. The bird descends, and when his head is turned away the man catches him, and treads on his head in the hut. In the event of the *kaka* not listening to the decoy-bird, the fowler proceeds to another place, and there erects his *taki*."

A hole is bored through the perch to fasten a flax line called a *maikaika;* the other end of the line is fastened to a *poria*, or ring, which encircles the leg of the bird. The snaring is principally done at early morning and in the evening.

Red varieties of the *kaka*, and albino varieties of the pigeon, are sometimes seen, and are termed *ariki*.*

In ancient times the principal way of capturing *kakas* was by decoys. The *kakas* used by the Natives to decoy the wild bird are removed from the nest when

* In other parts the striking variety here noticed is called *kakakura*, even if it is white in colour. There is a beautiful reference to these exceptional birds in the "Story of *Puhihuia*" in White's A.H.M., vol. iv., p. 156.

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fledged, and trained with great care, so that they may satisfactorily perform the work allotted to them by their masters. Some of the *mokai* (pets) are taught a few words in Maori, as "*Kowai ma koutou?*" (who are ye?) *Tui* and *kaka* were kept as pets long before the arrival of Europeans.

A Maori proverb (*pepeha*) relating to the *kaka* is "*He kakaki te haere he kuku ki te kainga!*" (noisy as a parrot when travelling, and mute as a pigeon when at home.) Another *pepeha* is "*He kaka wahanui*" (loud-speaking *kaka*.) This adage is used to denote approval when a public speaker's utterances are distinct, and sufficiently loud to reach the audience he is addressing.

"There are three methods adopted by the Urewera Natives for capturing the *kaka*, namely--

"1. *He pou-rakau* (a tree fixture.)

"2. *He pou-one-one* (a land fixture.)

"3. *He tutu* (a stand.)

For the *pou-rakau* method crooked branches of a *rata*, *pukatea* or *mangeao* are selected. Those on which plenty of *kowharawhara* (*Astelia banksii*) grow are preferred. The large cages, or sheds, built thereon are carefully concealed with ferns and leaves. Two branches protrude on each side of the entrance to the cage, and into these are cleverly inserted twigs laden with the red berries of the *karamurama* (*Coprosma*), and the decoy *kaka* placed in proximity on its *hoka* (perch), the end of which is in the hand of his master, who sits behind a screen made of the fronds of *kaponga* (*Cyathea dealbata*), but sufficiently near to reach with his hands the wild birds when in the act of stooping to feast on the tempting berries. The capture is so dexterously performed that the birds in the vicinity crowding round are not disturbed, and, one by one, therefore, they disappear, and are lodged under the feet of the fowler. The *pou-one-one* (land fixture) was built on elevated ground near the margin of the woods, the plan of the cage and the mode of capture being similar to those described above."

In the Waikare-moana Country the perch-snares for *kaka* (*mutu-kaka*) were of four kinds—*kira*, *huanui*, *porae*, and *kapu*. The difference consisting of the perch on which the snare is set or hung being at a different angle to suit the different

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angles of the branches of the trees to which they were fastened: the branch was called the *hiwi*, the carved knob at the end of the *mutu-kaka*, *toretore*, the little pieces of creeping vine or feather quill which kept the snares (*tohe*) from slipping until it was pulled, was *ninita*, or *ngingita*. The cord itself was called *kaha*; the noose at the end over the perch, *tohe*. The *kakas* are decoyed to these perches by the trained decoy-bird (*perua*), and then the cord is pulled by a native concealed in the tree—as in the method of pigeon-taking by *pouakas* and *tumus*.

The *hiwi*, or poles, to which the *mutu kakas* were lashed were of three kinds—*hiwi ariki*, *pou-tauru*, and *kira*.

The scarlet feathers of the *kaka* were held in high estimation by the Maoris: they were worn in the olden time as brow ornaments (*pare*), and used for decorating *taiahas*, and in making feather mats.

To prevent the tame birds destroying their perches (*hoka*, or *turuturu*), their bills were blunted by being burnt. Carved perches (*paekoko*), with receptacles at each end for food, were sometimes elaborately decorated.

"There are seven methods of taking the *tui* or *koko* (*Prosthemadera Novæ Zealandiæ*.) The first is by the *tutu*, the second by snares, the third by spearing, the fourth by striking, the fifth by the *pewa*, the sixth by the *tumu*, and the seventh by catching them in winter. The *tui* is a knowing and a shy bird. The only season when it is at all tame is when it is thin; in the season when it is fat it is exceedingly wild. The first three systems of catching it—the *tutu*, *ahere*, and *wero*—are similar to those used in taking the *kaka* and *kereru*, but the seasons are different for each kind, the *tui* being snared (*ahere*) when the *kowhai* (*Sophora*) is in flower.*

"In the method by striking, a *pae* or perch is made. It is a pole about 7 feet long and 1 inch thick, one end of which is suspended on a tree, and the other on another tree, so that one end is much higher than the other. The fern-tree leaf hut in which the fowler sits is beneath the lower end of the perch. So soon as the hut and perch are completed, the man occupies the former, and commences to call the birds that they may fly on the perch, which is done by the aid of a *patete*

* Tame *tuis* were taught to speak. They were trained to utter words to bewitch people, and to *karakia* (repeat incantations) for various kinds of food. Judge Wilson relates an instance of a long war arising over this matter.—J. A. Wilson, "Ancient Maori Life and History," p. 19.

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(*Schefflera digitata*) leaf inserted between his lips; with this he makes his call (imitates the note of the *tui*). When the birds alight on the *pae* they are knocked over with a long flexible stick. The season when the *kahikatea* fruit is ripe is an excellent time for capturing *tuis*, and also for using the system called *pewa*. The *pewa* has other names, such as *wheke* and *tumu*. The name *pewa* includes all the apparatus, such as the *wheke*, the *peuraro*, the *aho*, the *tata*, the *kohukohu*, the *tawhiwhi*, and the *tuke* or *korera*. The chief point in a *pewa* or *tumu* is the *wheke*, or perch, upon which the bird alights and is caught. Only an expert can find a good *wheke*; and his knowledge will be shown by the fearlessness with which the *tui* will alight upon it. The *tui* will not alight at once—even on a good *wheke*,—but will first warble (*kauhau*) from some place close to, and then get on to the *wheke*. If the *tui* first sings near the *wheke*, then it is a first-class *wheke*, and will be highly-valued by its owner, and will be used for years.

"Another method is by the *tumu*, used in the season when the bird becomes very fat by feeding on the berries of the *poporo* or *kaoho* (*Solanum aviculare*). The *tui* will not listen to the call then, so the *tumu* and spearing are used. The *tumu* used is like the *tumu* of the *tutu* and the *pewa*, but the branches of the *poporo* itself are used—two or three of the living branches. A small branch of the limb is bent on a *tuke* (hook) for the *tumu* and on a *peuraro* (spring); the ripe fruit of the *poporo (houto)* being fastened at one end. The *houto* is the *poporo* fruit carefully selected, quite ripe and of a perfect shape; several are gathered together to attract the *tui*. The only way the *tui* can secure the fruit is by passing along the *tumu*; and so soon as it has alighted, the fowler jerks the string, and the bird is caught. When the *tuis* are fat, and feeding on low trees or shrubs, they are speared; but only on rainy or windy days. *Kokomako* or *korimako (Anthornis melanocephala)* are taken in the same way as the *tui*.

"In frosty weather *tuis* will sometimes be found ten or twelve together roosting on a perch. These perching places are sought for, and then at night two men go out with a torch. The claws of the birds are so benumbed *(uhu)* with the cold that they are then easily taken. This cannot be done in daylight, or in warm weather.

"*Kakariki*, or green paroquets, are taken with a perch like the *tui;* but the *kakariki* perch is set outside the forest, and a decoy-bird is used. The *tari* or

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mahanga, or snare, is fastened to the end of a stick about 6 feet long, with which he snares the head of a *kakariki*. The decoy *(timori)* is taken young from the nest, and trained like the *kaka*.

"Wild ducks are taken by the snare, and by hunting with dogs. In moderate-sized streams frequented by wild ducks *(parera-maori)*, snares are made to reach from side to side. When the ducks are moulting *(turuki maunu)*, they are hunted with dogs. Pools frequented by ducks for moulting purposes are always strictly preserved. All these birds when procured are cooked as *huahua*—preserved in their own fat in large calabashes,—and they will keep good in these calabashes for a whole year; if particularly well done they will keep for two years."

In some parts the *kiwi* is hunted with dogs at night time. Torches are carried by the hunters to dazzle the birds, and to give light for the chase. The dogs used are provided with a number of little pieces of wood carefully made, fastened on to cords, and then hung round the dogs' necks, so that they may rattle *(patete.)* When the *kiwi* hears the noise made by these pieces of wood rattling together, he fancies it is the noise made by the worms in the ground. He stops to listen, and the dogs are then able to approach. The feathers of the *kiwi*—and of all the other birds—are used by the Maori in ornamenting his mats and weapons.

On the plains and open country the Maori snared numbers of native quail *(koitareke)* (*Coturnix*) and *wekas* (*Ocydromus*), and in the south-western portion of the South Island the *takahe* (*Notornis*). This bird, or an allied species, was at one time an article of food in the North Island, its bones having been found in the middens.

On the cliffs the fat young shags *(kawau)* were taken from their nests, and the *titi* or mutton-bird (*Procellaria*) was captured either by digging out their burrows or by nets and fires at night. The digging-out process is the one followed to the present day by the Maoris in the south of the South Island, especially on the small islands off the coast of Stewart Island. The birds when taken are very fat; they are split open, the bones removed, and the flesh smoked. They are then packed in large conical packages, formed by putting long pieces of *totara* bark into a flax *kete*, filling up the interior with birds, and then lacing the whole tightly together,

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terminating at the top in a point. Hundreds of these packages *(poha titi)* are made up every season and sent as presents to various parts. Sometimes they are decorated with bunches of feathers. Sometimes the birds are cooked and preserved in their own fat in vessels *(poha)* made of the kelp, or seaweed, and then placed in a *kete*, with *totara* bark tied round to strengthen them. The South Island Natives had a method of using from three to five upright straight stakes (*waewaepoha*), 6 or 7 feet long, which were fastened into position at about 15 inches from the ground by cross-pieces, forming a triangular frame on which the *poha* rested. The rods were bound together at the top, and ornamented with bunches of split feathers. The *pohatiti* were usually prepared in this way, when intended to be transported to a distance. They were carried on the back by means of *kawe*, or burden straps. The legs could be placed in the ground whilst the bearer rested on the cross-bars of the frame.

The method of procuring *titi* by nets is used on certain high cliffs or mountains in the interior of the North Island. A net was set up on the edge of the cliff —two poles being set up at each end, crossing each other just at the top, where they were strongly lashed. The upper rope of the net was termed *tama-tane* (the son), and the lower one *tama-wahine* (the daughter); the crossing of the poles, when they were lashed together above, was called the *mata-tauira*. A fire was kindled on the extreme edge of the cliff in front of the net; behind the fire, and immediately in front of the net, the *titi*-hunters concealed themselves, each with a short stick in his hand for killing the birds that struck the net. Two men remained standing to kill such birds as flew against the *mata-tauira*. Attracted by the fire, the *titi* flew against the net, when they were quickly killed by the sticks of the watchers. Should the first bird taken chance to fly against the *tama-tane* or the *mata-tauira*, it was deemed an omen of ill-luck—the hunters would be unsuccessful (*puhore*). Should, however, the first bird strike the net at or near the *tama-wahine*—near the ground—then they might look for a good bag. A foggy night was selected, and great numbers of birds were formerly taken in this way.*

The preserved birds potted in their own fat were highly valued by the inland tribes; and the Ngatiawa have a saying (showing the superiority of their food to

* Elsdon Best, "Waikare-moana," p. 15.

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the food of the coastal natives)—"What good is your fish? one is always spitting forth bones when eating it; but our birds—ah!—we eat straight ahead."

The way they prepared the birds was as follows:—Two or three stout sticks were stuck upright firmly in the ground. On one side of each stick (*pou*) is cut three or four notches, deep enough to carry transverse rods (*huki.*) The birds are spitted closely on these rods* until the rods are full; the ends of the rods are then placed on the notches (*kaniwha*) one above the other, so that the birds may overlap or are in layers. A wooden trough or *waka* is placed on the ground below the birds. At one end this *waka* is grooved (*koaka*). A bright, strong, clear fire is now made in front of the *hukis*, and as the fat from the birds melts it runs into the *waka*, and from it by the groove (*koaka*) into a *kumete*, or round wooden bowl buried in the ground. Then stones are made red hot, and thrown into the *kumete* until the fat boils. The fat is then ready to be poured into the large calabash (*taha*)† to cover the birds which have been packed in it. The *taha* was covered with a flax *kete*, round which were six or eight *kawai* or hoop handles (always an even number.) When filled the carved mouthpiece (*tuki*) was placed on the top, and *rangiora* (*Brachyglottis*) leaves placed on the top of the *tuki*. The loops were then drawn up round the mouthpiece, and laced over it with a cord (it was called a *ruru*, *he ruru taha.*)

* The chief bones are first taken out—an operation called *makire* or *kohure*.

† *Tahas* of preserved birds were frequently sent as gifts. In 1874 Paerau and Kereru Te Pukenui—two leading men of the Urewera—presented to Mr. Brabant and Wiremu Kingi, as representing the Government, 10 large *tahas*—some of them carved and ornamented—said to contain about 1,800 preserved birds. Kereru made a speech, in which he said that he had been blamed by his tribe for taking money from the Government, and that the *tahas* were for his fault—that is, to repay the obligation he was under the government.—Parl. Papers, G. I. a., p. 2, 1874.

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Group of Maori Weapons, with Calabashes for containing Preserved Pigeons.

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A Whistle used by a Leader for making Signals at War-time. British Museum.
Length, 6½ inches.

LIST OF WORDS
RELATING TO WEAPONS OF WAR.

Aha, ahaha.—Sharp cutting instrument (= *mira tuatini*); shark-toothed knife.

Aitua.—An ill omen; a portent; always an evil one.

Ake.—A small tree *(Dodonæa)*, from the wood of which the Maoris formerly made their carved staffs and defensive weapons. Mr. Colenso notes that this tree, which is diæcious, was known as such to the old Maoris. The male one is properly the *ake*, and from this only their war implements were made. The female was called *akeake*.

Aki.—To strike suddenly and violently; to hit with a club.

Amo.—The priest-leader of a war party.

Amokapua.—A priest (who recites before fighting?)

Arero.—Upper point of a *taiaha* carved in imitation of a human tongue.

Atangarahu.—Wily; cunning; a word much used in the olden times of a man skilful in devices and stratagems of all kinds, whether for peace or war, for snaring rats or birds, or catching fish, or outwitting the enemy. Such a person was in great repute.—Colenso.

Aukati.—Stop one's way; a line which may not be passed.

Auta.—To attack.

Autaua.—A messenger who brings tidings of an enemy's war party approaching.

Haeroa (Rua-haeroa).—A hole dug in the ground in connection with incantations against one's enemies; also *Rua-tupo*.

Haka.—Dance; song accompanied by dance.

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Hana.—*Whakahana*, to hold up weapons in defiance.

Hani.—A wooden weapon (= *maipi*, = *taiaha*).

Hao.—To enclose; besiege a fortress.

Hapopo.—The dead body; the trunk. (This is a *tapu* word only used in time of war.)

Hihinga.—Fall in numbers.

Hikutoto.—Revenge. *Ko tauatia ki te taua hikutoto.*

Hiku.—The tail or the rear of an army on the march.

Hingahinga.—Slaughter of numbers.

Hoa-riri.—Enemy.

Hocroa.—A weapon made from the jaw of the sperm whale.

Hokio.—A night bird, whose cry, "*Kakao, kakao!*" is an omen of war. This hoarse cry is caused by the choking in its throat caused by the hair of the warriors who will fall in the coming battle.—J.W., M.S., 166. Also, *hokioi*.

Horo.—Fall, or be taken, as a fortress.

Huaki.—Assault; charge.

Huata.—Spear with a knob *(rekc)* at the butt.

Humanu.—A cartridge belt.

Ika.—Body of men; troop.
A fighting man; a warrior.

Ika whiro.—Old warrior.

Ika-i-te-ati.—First person killed or captured in a fight. Also called *mata-ika*, *matangohi*, *mataati*, *te ika a Tiki*.

Ika-o-Tu, emb. for one killed in fight.

Ika-tapu.—Bodies of enemies slain in war.

Iri.—*Whaka-iri.* The head of a slain enemy when dried and hung up or placed on a pole as a mark of derision.

Kai-a-kiko.—Wounded man.

Kaikaiwaiu.—One who goes secretly to give information of the approach of an enemy.

Kairawaru.—Spear in an unfinished state.

Kakari.—To fight.

Kanawa.—A precious war weapon which is handed down as an heirloom, and used by the senior warrior.

Kaniwha.—Barbed spear.
Barbed on one side (?)

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Karo, or *Kakaro*.—To parry; avoid a blow; also, a short stick used to parry a spear thrust.

Karokaro.—A marauding party.

Katete.—Piece joined on to a spear to lengthen it.

Kauhoa.—A litter on which a person is carried.

Kaukau.—A spear.

Kautete.—*Mata kautete*. A weapon consisting of sharp teeth of flint lashed firmly to a piece of wood.

Kawau-maro.—Hand-to-hand fighting.

Kekeri.—To fight.

Koki.—Flanking angles of a *pa*.

Ki-tao.—An invocation spoken over a spear before a battle.

Koanga-umu.—Charm for depriving one's enemies of strength.

There were numerous varieties of charms and spells for almost every critical occasion in war-time.

Koikoi.—Spear.

Kokiri.—Spear. Body of men rushing forward.

Koko.—Chant for the purpose of keeping the guard awake in time of war.

Kopere.—(v). Sling.

2. Throw violently.
3. A sling consisting of a string attached to a stick.
4. The spear thrown by the *kotaha*.

Kopere-Tane!—An exclamatory phrase uttered by the leader of a war party as the signal for immediate action.

Kotaha.—Part of a chief's head-dress.

2. The throw-stick for a spear.

(An illustration of the mode of use will be found in the Plates of this Part).

Kotaha kurutai.—A weapon consisting of a sharp stone shaped something like a *mere*, but thrown attached to a string, and recovered by the string if it missed its mark.

Kotiate.—A lobed weapon of hard wood.

Kotaratara.—A dance of triumph.

Kuru.—Struck with the fist (= *meke*.)

Kuwha.—The name of the mythical spear of Ngatoro-i-rangi, thrown by him from the top of Tauhara Mountain into Taupo Lake.

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Mahunu.—Burnt.

"*Whatu-mahunu*; *Whatu-marara*" was part of a *karakia* performed over some pieces of *kumara*, which were buried in the path of an approaching enemy that, when they should tread on the spot, their legs might be burnt, and they be put to flight.

Maia.—Brave; bold.

Maioro.—The banks or walls of a terraced *pa*.

Maipi.—A wooden weapon (= *hani*, = *taiaha*).

Makamaka-whana.—Dance the war dance.

Tawhiti makamaka.—A kind of trap for rats.

Marereko.—A war plume made of twelve feathers of *huia* or other prized bird's plumage.

Maroro.—A flying fish. *He maroro kokoti ihu waka.* A proverbial saying for one who falls into the hands of a hostile war party.

Matakautete.—A weapon made like a saw by inserting sharp flakes of obsidian in a wooden frame.

Matarau.—Forked spear for catching eels; used on occasions as a weapon.

Matataki.—Challenge.

Matia.—Spear.

Matua.—The main body of an army.

Maawe.—A lock of hair or a piece of clothing taken from the first man killed in battle, and over which the priest performed a ceremony to weaken the enemy and make his own party strong and victorious.

Mere.—A stone weapon for hand-to-hand fighting.

Mira.—*Mira tuatini.* A saw-like weapon made of sharks' teeth fastened to a piece of wood.

Neti.—A small dart used in play.

Ngarahu.—War dance; *ngarahu-taua* war dance.

Ngeuku.—A god to whom invocations are addressed to secure victory for a war party.

Ngohi.—Troop or company of fighting men.

Niho.—*Whakanihoniho.* To quarrel.

Oka.—Knife; dagger.

Okewa.—Stone weapons shaped like *mere*, but made of melaphyre, aphanite, and other fine-grained rock.

Onewa.—A kind of dark-grey stone.

2. Any implement made of the same.

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Ope.—A troop or war party.

Pa.—Stockade; fortified place.

2. Weir for catching fish.

Pahu.—Alarum, or gong, made of wood or stone; formerly used in time of war.

Paiaka.—A weapon made from a root.

Pakanga.—Quarrel; hostilities; war.

Pakanga.—A fight; a war.

Pakau.—Wing of an army.

Pake.—A small triangular weapon about eighteen inches long; also, *patuki* or *potuki*; used also for preparing fern-root for eating.

Pakeaka.—Traverses crossing the head of a war *pa* at intervals for protection from flanking fire.

Panekeneke.—A small edge tool; hatchet. Also, *panehenehe.*

Paraoa.—Weapon made from the bone of a sperm whale.

Paraoa-roa.—Weapon made of a whale's rib.

Parepare.—Defensive *karakias*, or charms.

2. The bank inside palisades of a *pa*.

Parekura.—Battle; battle field.

Pare-whero.—Slaughter in battle (= *parekura*, a battlefield).

Patiti.—Hatchet.

Patu.—A weapon; a general name for all weapons used for striking.

Pehi.—The second person killed or taken in battle.

I a Tupe te mataika, i a au te pehi.

Peketua.—A weapon carried in the belt.

Pepeha.—The name of any celebrated *pa* or fortress; used as a war-cry or war-boast.

Pere.—Arrow or dart, thrown by means of a thong attached to a stick.

Pihe.—Song sung over the bodies of the slain. *Ka ora koe, ka pihea.*

Pihe hikutoto.—Ceremony performed on the return of an unsuccessful war-party.

Pioi.—Song sung while brandishing heads taken in battle.

Pou-tangata.—*He toki pou-tangata*, a greenstone adze used as a weapon of war.

Pou-whenua.—A weapon like a *taiaha*, but with a sharp spear-point instead of a carved tongue.

Puapua.—A garment, wrapped round the arm as a protection from a blow.

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Puarere.—Decoy-bird ; of small birds only.

Puhaureroa.—Conch or horn blown to give signals.

Puhipuhi.—Bunches of feathers for the adornment of a weapon.

Pukaea.—A wind instrument made of *totara*, and used to give an alarm in time of war.

Pukupuku.—Closely-woven mat, which, being wetted, is impervious to a spear.

Puni.—Place of encampment.

Puru.—*Whakapurutao*, pad worn on the arm as a protection against a spear-thrust.

Puta.—A battlefield on which people have fallen.

Putara.—A shell used like a horn for signals.

Rangi.—A tower built in several stories used in attacking a *pa ;* also, *taumaihi.*

Rarahu.—Herbage gathered on a field of battle, and sent to the priest of a victorious party, wherewith to perform certain incantations.

Rere.—*Whakarere.* Use a weapon in striking a blow.

Reti.—A spear or throwing weapon, attached to a large cord.

Ripi.—A wooden implement like a sword-blade for killing eels ; also used as a weapon.

Riri.—Anger. *Riri taua nui.*—War between two tribes.

Rongo.—Peace after war.

Rongo-a-whare.—Peace brought about by the mediation of a woman.

Rongo-a-marae.—Peace brought about by the mediation of a man.

Rongo-taketake.—Peace, &c., between the gods of two tribes.

Houhanga-rongo.—A peace-making.

Rorehape.—A kind of wooden weapon, similar to *wahaika.*

Ruatapuke.—A method of fighting in loose order.

Ta.—Stroke of a *taiaha.*

Taiaha.—A flat weapon of hard wood, about 5 feet long, having one end carved in the shape of a tongue.

Taiapu.—To assault ; to try to take by storm.

Used also of a star when in close conjunction with the moon.

Kei te taiapu te whetu i te marama.

This is considered a sign of war, and indication of the success of one side or the other according to the position of the star.

Taipara.—To fire a volley at.

Tao.—A spear.

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Tara.—Spear point; barb.

Tarerarera.—A short spear of *manuka;* dart, barbed and notched or thinned so that it breaks off in the body *(= pere).*

Tarukinga.—Slaughter.

Tatara.—Shell used as a wind instrument (= *pu-tatara*).

Tatau-pounamu.—An enduring peace.

Tau.—Loop or thong on the handle of a *mere.*

Taua.—Army. An avenging expedition summoned immediately after the occurrence of the disaster to be avenged was called *taua-toto;* or *taua whakawhati rau rakau.*

Taua ngaki mate was a more deliberate matter.

Taumatakitahi.—To select a champion for each side (in fighting).

Riri tautapatapa.—Single combat according to previous challenge.

Tauri.—Small mat covered with red feathers; ornamenting a *taiaha.*

Teka.—Small dart thrown for amusement.

Tete.—Head of a spear.

Tetere.—Trumpet.

Tewha-tewha.—A weapon made of wood, broad and flat at one end; something like the head of an axe, with bunch of feathers attached.

Tiepa.—A framework of sticks on which was placed the offerings dedicated to a god. Amongst these was the heart of the first man slain in battle *(mataika.)*

Timata.—Dart like a *huata.*

Tiora.—A marauding party, separate from the main army.

To.—To carry a *taiaha* at the trail.

Toa.—Brave man; warrior.

Toetoe-whatumanu.—A stalk of grass *(Arundo conspicua)* chewed by the priest before cutting the hair of a war-party. *Toetoe* stalks were much used in ancient religious ceremonies. It was believed that if the young men chewed these stalks while incantations were being learnt, the effect produced would be a great retentiveness of memory, and prevent them divulging secrets.

Tohi-taua.—To conduct certain ceremonies relating to a war-party before a battle. It was a very sacred ceremony, and no woman or boy was allowed to be present.

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Tohu.—A company or division of an army.

Turangi tohu.—A war-dance.

Toki-hangai.—Adze.

Toki-hohupu.—Greenstone adze with carved handle.

Toki-whakapae, or

Toki-titaha.—Common felling-axe.

Torowai.—Weapon made of a whale-rib.

2. Wooden weapon.

Tu.—Fight with; engage. The great war-god of New Zealand.

Tua-umu.—Part of the *niu* ceremony, when performed for a war-party.

Tungarahu.—A muster or review to ascertain the exact number and condition of a war-party.

Turuhi.—A spear-like weapon, like a *pouwhenua.*

Uto.—Vengeance; a deadly enemy.

Waewae.—*Whakakite waewae*, or *tutu-waewae.* Dance the war dance, from the performance of which it was usual to augur well or ill of the expedition.

Wahaika.—A wooden weapon of war (= *wahangohi* or *rorehape.*)

Waitohi.—A charm repeated before going into battle.

Wero.—Pierce; spear; throw a spear; dart. *Wewero*, strike with a spear.

Whawhai.—To fight.

Whaitaua.—A party which comes to the assistance of another in time of war.

Whangaihau.—Song over the dead.

2. A ceremony performed over those who slay an enemy in battle.

3. A species of divination to decide a dispute as to the honour of having slain a certain warrior of the enemy.

Whakàriki.—A war-cry.

Whakaariki.—A war-party.

Whakaara.—Hostile party; marauding band.

Whakaaraara.—Chant to keep the watch awake in time of war (= *koko*).

Whakatahurihuri.—A ceremony performed on the return of a victorious war-party.

Whcinga.—A quarrel.

Whewheia.—An enemy.

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LIST OF WORDS
RELATING TO HUNTING.

Ahere.—Snare for birds; for pigeons (= *mahanga*).

Aherekuri.—A snare for taking the ancient Maori dog.

Airo.—Name of the parrot's cry or song, "*Kia iro*," meaning "remember" (tauntingly). —See "Trans. N.Z. Inst.," vol. xi., p. 102, for the fable of the great battle between the land and sea birds.

Here.—A spear for killing birds (= *tahere*).

Hinu.—Game, such as pigeons; rats, &c., preserved in their own fat.

Hiwi.—The pole to which a *mutu-kaka* is lashed.

Kaka.—Main cord of a parrot-snare.

Kake.—Part of a *pewa*-snare supporting the *pewa*.

Kohure.—To take out the bones of birds.

Karau.—A trap made of loops of *karakeke* to catch birds that burrow in the ground.

Mahunga.—The top of the *tihaere* of a bird-snare.

Makiri.—To take the bones out of pigeons before they were preserved.

Matiti.—A dry branch of a tree frequented by birds, and resorted to for the purpose of catching them.

Mouti.—Decoy-*kaka* parrot.

Mutu.—Perch, being part of an apparatus for snaring birds.

2. Spear thrown towards a war party by way of a challenge, or as an omen.

Ninita (=ngingita).—Piece of wood or quill under which the *tohe* of a parrot-snare is slipped.

Paerangi.—A kind of bird-snare.

Pawa.—Entrance to a trap.

Pakipaki.—Decoy-parrot.

Pewa.—A bird-snare for *tihe*.

Pewa.—Entrance to a trap for birds.

Pea.—The bait used in rat or bird-snares.

Poria.—Ring on the leg of a captive bird.

Pouaka.—Part of a pigeon-snare.

Pua-manu.—A bird-trap; a snare.

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Rongo-hua-—A perch for birds.

Rore.—Snare; trap.

Tarahanga.—Trap for hawks.

Tari.—A noose for catching birds.

Tataki.—Arrange snares on a string for catching birds.

Tihaere.—A pole with a snare arranged on it, baited with flowers for catching birds.

Timori.—A decoy-bird.

Tohe.—Cord or slip-noose of bird-snare.

Toretore.—Carved knob at the end of the perch of a *kaka*-snare.

Tumu.—A snare-perch for pigeons.

Turi.—Part of a bird-snare.

Tutu.—*Tutu-manu*. Perch for birds; or a tree prepared for pigeon-snares.

Waharua.—A *tahiti kiore*, or rat-trap with two snares.

LIST OF WORDS
RELATING TO
TOOLS FOR AGRICULTURE.

Ahu.—To cultivate; to hoe.

Ahuahutanga.—Small hillocks in cultivation for *tohungas* (= priests) set apart for seed.

Akuaku.—To scrape out, as from a Maori earth-oven.

To take out the stones used in baking out of an earth-oven.

To pick or gather up fern-root when it is being dried.

Amai.—The back part of a Maori axe-helve, where bound round.

Angatupa.—Shell of the large scallop *(Vola laticostata)*, the flat valve of which was formerly used for chopping the matted runners of the convolvulus plant growing on the gravelly beaches, preparatory to digging up their roots for food.

Hamaruru.—The crutch of a *ko* or digging implement.

Hangohango.—An implement for digging and for setting potatoes.

Hapara.—A spade; also *puka*, *hoto*, *karchu*, *kaheru*, *ko*, *tihou*.

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Hapoko.—A pit used for storing potatoes (= *hapoki*).

Hoto.—A wooden spade.

Kaheru.—Spade or other implement for working the soil.

Kapu.—A steel adze, so called from its shape.

Ko.—A wooden implement for digging or planting, sometimes used as a weapon of war.

Mara.—A plot of ground under cultivation; a garden.

Matakari.—A wedge.

Ora.—A wedge.

Paoi.—Wooden beater for pounding fern-root.

Pirori.—Drill (= *tuiri*).

Poke.—Short axe.

Raku-raku.—Implement to scratch with; rake; harrow.

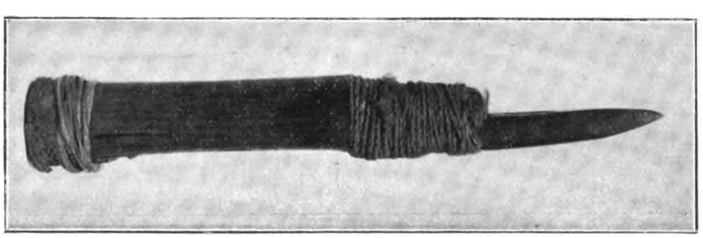
Tihou.—An implement used as a spade.

Tima.—A bent stick used as a hoe.

Tokitoki.—A digging stick used in extracting fern-root after the surface soil has been removed.

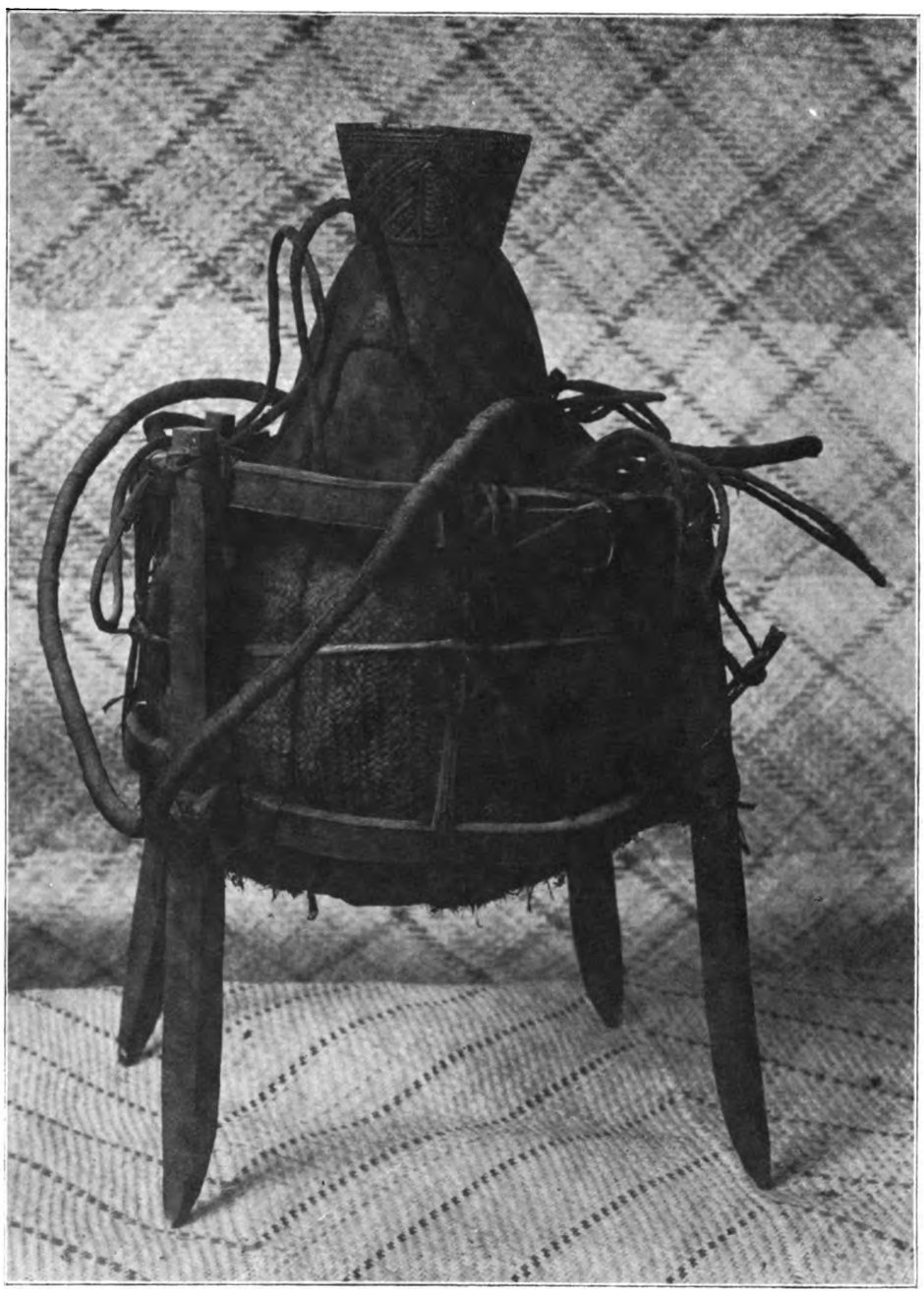
Toki.—Axe; adze; or any similar tool.

Ure.—A stone adze. It was sometimes used as a chisel, especially for making holes.



Small Carving Chisel *(whao)*, **in the original handle. British Museum.**

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Taha, **or Calabash for Preserved Birds.**

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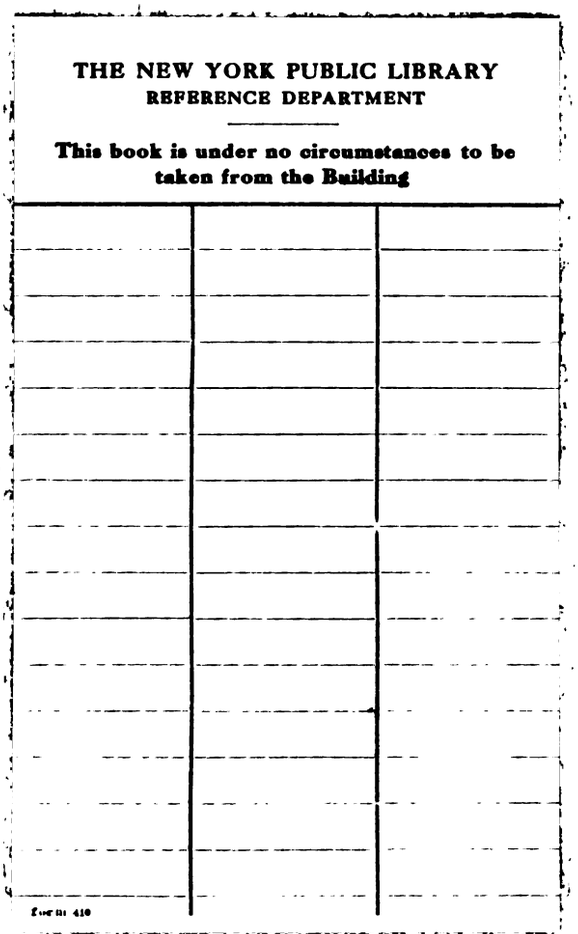
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